CONSTRUCTION NEWS

PERSONALS, ENGINEERING SOCIETIES, INDUSTRIAL NOTES, TRADE PUBLICATIONS.

Supplement to ENGINEERING NEWS. Thursday, May 14, 1903.

CONTENTS.

PERSONAL 265
Obituary 265
ENGINEERING SOCIETIES 265
Coming Meetings 265
CONSTRUCTION NEWS:
Condensed List of Contracts Pending 266
Railways 266
Street and Electric Railways 267
Light, Heat and Power Plants 267
Bridges 268
Buildings 269
Water Supply and Irrigation 270
Sewerage 271
Garbage Disposal and Street Cleaning 271
Streets and Roads 272
Manufacturing Plants 272
Miscellaneous Contracts 273
U. S. Possessions and Cuba 273
Mexico 273
Foreign Contracts and Export News 274
Contract Prices 274
INDUSTRIAL NOTES 275
TRADE PUBLICATIONS 275
PROPOSALS 276, 277
ADVERTISERS' CLASSIFIED DIRECTORY 278, 279, 280

PERSONAL.

Mr. H. C. Bricker has been appointed Assistant Engineer of Bridges and Buildings of the Baltimore & Ohio.

Mr. Shinji Harada, of Tokio, Japan, Consulting Engineer to the Mitsubishi Mining Co., is now visiting this country.

Mr. Arthur D. Wheeler has been elected President of the Chicago Telephone Co., succeeding Mr. John I. Sabin, resigned.

Mr. George Welsby Scott, Consulting Engineer, has moved his office from "The Rookery" to the Security Building, Chicago.

Mr. Karl Schneider, Chief Engineer of the Rombach Steel Works, at Rombach, Lorraine, Germany, is now visiting this country.

Mr. Henry I. Buell has resigned as City Engineer of Zanesville, O., to accept a position with the A. E. Appleyard Co., of that city.

Mr. O. Davidson is appointed Division Engineer of the Iowa Central Ry. at Marshalltown, Ia., succeeding the late Mr. R. H. Wright.

Mr. Joseph E. Thropp, Jr., has resigned as General Manager of the Everett Furnace and Mines at Everett, Pa., and will probably locate in Mexico.

Mr. Oscar Lowinson, Assoc. M. Am. Soc. C. E., Architect and Engineer, has moved his office from 39 Cortlandt St. to 25 West 24th St., New York.

Mr. Charles H. Dyer, former General Superintendent of the Colorado & Southern Ry., has been appointed Manager of the Otis Car Co., with heaquarters at Chicago.

Mr. Charles Cottingham has resigned as City Engineer and Street Commissioner of Noblesville, Ind., and Mr. J. S. Shannon, former County Surveyor, is appointed his successor.

Mr. William F. Merrill, First Vice-President of the New York, New Haven & Hartford R. R., has resigned to obtain rest. He was formerly Second Vice-President of the Erie R. R.

Mr. W. H. Stillwell has been appointed Division Superintendent of the Tennessee Division of the Illinois Central R. R., with headquarters at Memphis, Tenn., succeeding Mr. J. G. Lorton.

Mr. A. D. Nickerson has resigned as Engineer to the Sewer Commissioners of Hyde Park, Mass., and is now employed by the Commission on Additional Water Supply of New York City.

Mr. Frank L. Getman, C. E., has resigned his position in the Engineering Department of the City of Cohoes, N. Y., to accept the place of Resident Engineer on the new artesian wells and water system for Ithaca, N. Y.

Mr. J. Y. McClintock, M. Am. Soc. C. E., has been appointed County Engineer of Monroe County, N. Y., with headquarters at Rochester, N. Y. Mr. McClintock was formerly Commissioner of Public Works of Rochester.

Mr. John W. Alvord, M. Am. Soc. C. E., Sanitary and Hydraulic Engineer, of Chicago, has been chosen by the Omaha, Neb., water board as the appraiser for the city on the board to determine the value of the water-works plant.

Mr. W. H. Ham, Assoc. M. Am. Soc. C. E., formerly Engineer for the New York Expanded Metal Co., has been placed in charge of the department of steel-concrete structures of Tucker & Vinton, Inc., 156 Fifth Ave., New York.

Mr. W. C. Hurst has been appointed Engineer of Construction in charge of the work on the Chicago, Burlington & Quincy R. R., between Brookfield and Hannibal, Mo. Mr. Hurst was for three years Assistant Engineer and for the past two years Resident Engineer of that road at St. Joseph, Mo.

Mr. J. Albert Holmes, who for seven years past has been Engineer of Park Department of Cambridge, Mass., has resigned that appointment to accept a position with Mr. Chas. W. Leavitt, Jr., Civil and Landscape Engineer, at 15 Cortlandt St., New York.

Mr. W. D. English has been appointed General Manager of the Contra Costa Water Co., of Oakland, Cal., succeeding Mr. Arthur L. Adams, M. Am. Soc. C. E., who resigned to continue his private practice as consulting hydraulic engineer in San Francisco.

Gen. Thomas A. Morris has resigned as President of the Indianapolis Water Co. General Morris is 92 years of age and has been President of the company since its organization. He has moved to California with his family, where he will pass the remainder of his days.

Mr. W. H. Hoyt has resigned as Principal Assistant City Engineer of Duluth, Minn., to become Assistant to the Chief Engineer of the Duluth, Missabe & Northern Ry. Mr. E. K. Coe, formerly with the U. S. Government Engineer Office, in Duluth, succeeds him.

Mr. William N. Davis has resigned as Assistant Engineer of the Canal Department of the Lehigh Coal & Navigation Co., to accept the position of Assistant Engineer with the American Pipe Mfg. Co., of Philadelphia, Pa. For the present Mr. Davis will be engaged on the water-works construction for that city.

Mr. William M. Torrance, M. W. S. E., has resigned his position as Assistant Engineer with the N. Y. C. & H. R. R. R., to accept one as Resident Engineer with the Illinois Central Railroad in charge of construction of a bridge across the Tennessee River at Gilbertsville, Ky. Mr. Torrance is a graduate of Cornell University, class of 1895.

The firm of Robert W. Hunt & Co. have moved their New York office to 66 Broadway. Messrs. John J. Cone and James C. Hallstead of the firm sailed for Europe on May 2. Mr. Cone will return after a few weeks visit, and Mr. Hallstead will inspect the structural material for two large London hotels, which has been awarded to his firm.

Rear Admiral John G. Walker, U. S. N., Gen. Peter C. Hains, Corps of Engineers, U. S. A., and Prof. W. H. Burr, head of the Civil Engineering Department of Columbia University, members of the sub-committee of the Isthmian Canal Commission, have returned from their tour of inspection of the canal route through the Isthmus of Panama.

OBITUARY

Mr. William Wellington Tyler, of York, Pa., died at the home of his brother, Mr. Mason W. Tyler, in Plainfield, N. J., on May 5. He was 61 years of age. Mr. Tyler was the son of W. S. Tyler, Professor of Greek in Amherst College. He is survived by a widow and three children.

Mr. E. P. Williams, of the Sherwin-Williams Co., paint manufacturers, of Cleveland, O., died at his home in Glenville, O., on May 4. Mr. Williams was born in Cleveland in 1843, and graduated from Hudson College in 1864. He served through the Civil War and at the end of the war engaged in the manufacture of glass. In 1878 he joined Henry A. Sherwin in the manufacture of paints and oils. Mr. Williams was a member of the Chamber of Commerce of Cleveland, and was Second Vice-President of that body in 1899 and First Vice-President in 1900. He is survived by a widow and four children.

ENGINEERING SOCIETIES

COMING MEETINGS.

NATIONAL ELECTRIC LIGHT ASSOCIATION.
May 26, 27 and 28. Convention at Chicago, Ill. Secy., James B. Cahoon, 136 Liberty St., New York city.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
June 8. Annual convention at Asheville, N. C. Secy., C. W. Hunt, 220 W. 57th St., New York.

AMERICAN FOUNDRYMEN'S ASSOCIATION.
June 9, 10, 11. Annual convention at Milwaukee, Wis. Secy., Richard Moldenke, P. O. Box 432, New York city.

INTERNATIONAL ASSOCIATION OF CAR ACCOUNTANTS AND CAR SERVICE OFFICERS.
June 17, 18. Annual meeting at Quebec, Canada. Secy., L. G. Corcoran, Buffalo, N. Y.

AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.
June 17, 18, 19. Annual convention at Mackinac Island, Mich. Secy., J. W. Taylor, Rookery Building, Chicago.

MASTER CAR BUILDERS' ASSOCIATION.
June 22, 23, 24. Annual convention at Mackinac Island, Mich. Secy., J. W. Taylor, Rookery Building, Chicago.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.
June 22 to 26. Annual meeting at Saratoga, N. Y. Secy., Prof. F. R. Hutton, 12 West 31st St., New York city.

AMERICAN WATER-WORKS ASSOCIATION.
June 23 to 26. Annual meeting at Detroit, Mich. Secy., J. M. Diven, Elmira, N. Y.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.
June 29, July 2. Annual convention at Niagara Falls, N. Y. Secy., R. W. Pope, 95 Liberty St., New York.

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION.
July 1, 2, 3. Annual convention at Niagara Falls, N. Y. Secy., C. A. Waldo, Purdue University, Lafayette, Ind.

AMERICAN SOCIETY FOR TESTING MATERIALS.
July 1, 2, 3. Annual meeting at Delaware Water Gap, N. J. Secy., E. Marburg, University of Pennsylvania, Philadelphia.

AMERICAN PARK AND OUTDOOR ART ASSOCIATION.
July 7, 8, 9. Annual meeting at Buffalo, N. Y. Secy., C. M. Robinson, Rochester, N. Y.

AMERICAN STREET RAILWAY ASSOCIATION.
Sept. 2 to 4. Annual convention at Saratoga Springs, N. Y. Secy., T. C. Penington, 2020 State St., Chicago, Illinois.

FRANKLIN INSTITUTE.—It has been voted to have a joint meeting of the various Sections of this society on Thursday of each week from September to May inclusive, each Section in its turn taking charge of the meeting. The Engineering Section will be in charge of the meeting of May 14, when Mr. C. Kirchhoff, of New York, will read a paper on "The Utilization of Blast Furnace Gases for Power Purposes."—Secy., W. H. Wahl.

WESTERN SOCIETY OF ENGINEERS.—The paper presented at the meeting on May 6 was on "Railway Maintenance of Way," by Mr. H. J. Slifer, General Superintendent of the Eastern District of the Chicago, Rock Island & Pacific Ry. The paper was very brief. The author approved of putting technical or high-school graduates in the maintenance-of-way corps in the field as chainmen and rodmen, and providing some system of promotion in the department so as to encourage young men to remain permanently. He also advocated the system of organization in which each superintendent has control of the maintenance work on his own division, having a division engineer and roadmaster under him.

In regard to the track itself, the author advocated larger ditches, at least 12 ins. of ballast, and the laying of rails with square or even joints. Defective joints he considered as the greatest cause of bad riding track. He did not approve of widening gage on curves.

AMERICAN SOCIETY OF CIVIL ENGINEERS.—At the regular meeting of May 6 two papers were presented, one by Mr. H. D. Parsons on "A Small Rock-Fill Dam," and the other by Mr. C. W. Hudson on "Deflection of Beams with Variable Moments of Inertia." The principal discussion on the former paper was by Mr. Foster Crowell, who told of building a dam 80 ft. high in Michigan, where the bottom of the valley was of rock of a peculiar seamy nature. The seepage of water under the dam was provided against by drilling a series of holes across the seamy formation, spacing the holes as close as possible—7 ins. apart. Cement grout was forced into the holes under 90 lbs. air pressure and formed an effective barrier to the flow of water. Discussing the second paper, Prof. M. Merriman said that it was the first discussion of the deflection of plate girders, which usually are built so as to have a varying moment of inertia. The treatment of the author was especially good in considering the shears, which contribute appreciably to the deflections; it was incomplete, however, in not taking the horizontal shears into consideration.

ENGINEERS' CLUB OF PHILADELPHIA.—At the meeting held May 2, 1903, Rear Admiral George W. Melville read a paper on "The Military Importance of Naval Engineering Experiments" and detailed the scope and purpose of the Naval Engineering Laboratory to be established at Annapolis. The naval experimental work of America and England has been done in a desultory and sporadic manner. Thirty-five years ago Engineer-in-Chief Isherwood, U. S. N., carried on an extended and careful series of experiments in connection with the subject of screw propellers. The information secured at that time is standard authority to-day, but the problem as to whether or not in-turning screws are detrimental to maneuvering qualities would have been solved many years ago if the work planned by Mr. Isherwood had been continued. It is methodical, thoughtful and persistent work which counts and the engineering world is now beginning to understand the value of the work done at the Charlottenburg laboratory in promoting German success in naval construction.

For the past eight years, the Bureau of Steam Engineering of the Navy Department has had in contemplation the establishment of such an experimental plant, as it can be absolutely stated that the Navy is behind the times in original work and research.—Secy., J. O. Clarke.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—The last of the "monthly reunions" for the current season was held on Tuesday evening, May 5. Prof. A. H. Sabin discussed "The Technology of Artistic and Industrial Painting." In the very interesting talk he first defined paint and varnish, emphasizing the distinctions between them. Linseed oil, the base of nearly all paints and varnishes, was then described, also its oxidation on drying and its permanence when standing even for years if the air be excluded. A pure oil paint consists only of oil and pigment, but not all oil paints are of this kind.

In fact all early paints were not oil paints in this sense, but were made on a varnish base. Varnish is a combination of oil with a vegetable resin; most resins cannot be used as they come from the tree, but require to become fossilized. The process of manufacture of varnish was fully described by the speaker, and the great age of this process, in almost its present form, was mentioned. It is probable that the Egyptian mummy-cases were covered with what is substantially the same as certain modern varnishes. The first written record of varnish making, however, is in the writing of Theophilus, a 10th century monk. Turning more particularly to artistic painting, the speaker said that the old Egyptians painted with water-color pigments in a glue size. In the 14th century oil painting with varnish paints was introduced by Ten Eyck, and the brilliant effects he obtained by this means made this the universal practice in oil painting throughout the Middle Ages; all the great Dutch and Italian painters used varnish paints, which accounts for the lasting qualities of their work. Oil paints work better than varnish paints, are more brilliant at first, but darken much more with age and do not last as long.

In conclusion, Professor Sabin showed how our modern word varnish is derived from the name of the Egyptian Queen Berenice, whose yellow color of hair caused her name to be applied to amber and other fossil resins. In answer to some questions, Professor Sabin said that the whitening of some varnish by water was due to various causes; varnish made from rosin will whiten, as will any spirit varnish, but even varnish made from good material is sometimes affected in the same manner. To-day most varnish makers have overcome this defect by careful manufacture.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
May 14.	Lighting appliances, Governor's Isld, N. Y.		Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
May 14.	Paving, Geneva, N. Y.		Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
May 14.	Paving, Norfolk, Va.		Apr. 9
	Advertised, Eng. News, Apr. 9 and 16.		
May 14.	Building, Hartford, Conn.		Apr. 16
	Advertised, Eng. News, Apr. 16 and 23.		
May 14.	Bridge, New York, N. Y.		May 7
May 14.	Dams, etc. (W.-W.), New Britain, Conn.		May 7
May 14.	Bridges (9), Auburn, Ind.		May 7
May 14.	Macadamizing, Springfield, Mass.		May 14
May 15.	Paving, Grand Rapids, Mich.		May 14
May 15.	Bridges (3), Gettysburg, Pa.		May 7
May 15.	Sewage purification plant, Des Moines, Ia.		Apr. 23
May 15.	Bridge, Grand Rapids, Mich.		Apr. 23
	Advertised, Eng. News, Apr. 23 to May 14.		
May 15.	Steel tank, etc., Richmond, Va.		Apr. 23
May 15.	Dredging, New London, Conn.		Apr. 16
	Advertised, Eng. News, Apr. 16 to May 14.		
May 15.	Dredging, New York, N. Y.		Apr. 16
	Advertised, Eng. News, Apr. 16 to May 14.		
May 15.	Drainage, Tomah, Wis.		Apr. 2
	Advertised, Eng. News, Apr. 2 to 30.		
May 16.	Paving, Cleveland, O.		May 7
May 16.	Electric plant, Los Angeles, Cal.		Apr. 23
May 16.	Paving, Paulsboro, N. J.		May 7
	Advertised, Eng. News, May 7 and 14.		
May 16.	Bridges (7), Winchester, Ind.		May 7
May 16.	Paving, Chicago, Ill.		May 14
May 16.	Reservoir, Prescott, Ariz.		May 14
May 18.	Paving, Boston, Mass.		May 14
May 18.	Heating and electric plant, Hempstead, N.Y.		May 14
May 18.	Water supply, North Hempstead, N. Y.		May 14
	Advertised, Engineering News, May 14.		
May 18.	Pumping engine, Burlington, Ia.		May 14
May 18.	Bridge, Erie, Pa.		May 14
May 18.	Paving, Michigan City, Ind.		May 7
May 18.	Sewers, Quincy, Mass.		May 7
	Advertised, Engineering News, May 7.		
May 18.	Paving, Marshalltown, Ia.		May 7
May 18.	Water-works, Sterling, Colo.		May 7
May 18.	Pipe, castings, etc., Sacramento, Cal.		May 7
May 18.	Bridge, Walla Walla, Wash.		May 7
May 18.	Road, Indianapolis, Ind.		May 7
May 18.	Bridge, San Jose, Cal.		May 7
May 18.	Bridge, Hays, Kan.		May 7
May 18.	Gas plant, Shelby, Ia.		May 7
May 18.	Bridge, Fredericton, N. B.		Apr. 2
	Advertised, Engineering News, Apr. 2.		
May 18.	Garbage plant, Shreveport, La.		Apr. 23
May 18.	Paving, Toledo, O.		Apr. 23
May 18.	Roads, Fort Stanton, N. Y.		Apr. 30
	Advertised, Eng. News, Apr. 30 to May 14.		
May 18.	Paving, Payne, O.		Apr. 30
May 18.	Building, Millersburg, O.		May 14
May 19.	Gravel road, Bluffton, Ind.		Apr. 23
May 19.	Building, Elizabethtown, N. C.		Apr. 23
May 19.	Gunboats (2), Washington, D. C.		Apr. 2
May 19.	Bridge, Milwaukee, Wis.		Apr. 16
May 19.	Paving, Charlotteville, Va.		May 7
May 19.	Water-works, New Bremen, O.		May 7
May 19.	Cutting, timber, etc., New York, N. Y.		May 7
May 19.	Bridge work, Tyndall, S. Dak.		May 7
May 19.	Bridge, Langdon, N. Dak.		May 7
May 19.	Water-works, Greene, N. Y.		May 7
	Advertised, Eng. News, May 7 and 14.		
May 19.	Water pipe, etc., New York, N. Y.		May 7
May 19.	Electric lamps, etc., New York, N. Y.		May 7
May 19.	Boilers, New York, N. Y.		May 7
May 19.	Lumber and piling, New Orleans, La.		May 14
May 19.	Paving, Milford, Mass.		May 14
May 19.	Paving, Charlottesville, Va.		May 14
	Advertised, Engineering News, May 14.		
May 19.	Paving, Knoxville, Tenn.		May 14
May 19.	Stone dock, New Rochelle, N. Y.		May 14
	Advertised, Engineering News, May 14.		
May 19.	Bridges (15), Pembrina, N. Dak.		May 14
May 20.	Bridge, Chicago, Ill.		May 14
May 20.	Reservoir, Marieville, Que.		May 14
May 20.	Paving, Chicago, Ill.		May 14
May 20.	Building, Clinton, Ia.		May 14
May 20.	Building, St. Ignace, Mich.		May 14
May 20.	Sewer, Amsterdam, N. Y.		May 14
	Advertised, Engineering News, May 14.		
May 20.	Building, Shoshone, Idaho.		May 14
May 20.	Paving, Walden, N. Y.		May 7
	Advertised, Eng. News, May 7 and 14.		
May 20.	Water-works, Fayette, Ia.		May 7
May 20.	Pumping engine, Tucson, Ariz.		Apr. 30
	Advertised, Engineering News, Apr. 30.		
May 20.	Bridge, Jacksonville, Fla.		Apr. 30
	Advertised, Eng. News, Apr. 30 to May 21.		
May 20.	Sewers, Bordhill, O.		Apr. 30
May 20.	Roads, Newport, R. I.		Apr. 30
May 21.	Filter plant, Yonkers, N. Y.		Apr. 30
	Advertised, Engineering News, Apr. 30.		
May 21.	Plumbing, etc., Marietta, O.		Apr. 30
May 21.	Building, St. Louis, Mo.		Apr. 30
May 21.	Pumping plant, etc., Martinsburg, W.Va.		Apr. 23
	Advertised, Eng. News, Apr. 23 and 30.		
May 21.	Lock irons, Wheeling, W. Va.		Apr. 23
	Advertised, Eng. News, Apr. 23 to May 21.		
May 21.	Building, Chamberlain, S. Dak.		May 7
May 21.	Building, Glenville, O.		May 7
May 21.	Sewer, Waterloo, Ia.		May 7
May 21.	Bridge, Omaha, Neb.		May 7
May 21.	Subway, Washington, D. C.		May 7
May 21.	Steam heating plant, Lafayette, Ind.		May 7
May 21.	Paving, Saginaw, Mich.		May 14
	Advertised, Engineering News, May 14.		
May 21.	Bridge, New York, N. Y.		May 14
May 21.	Paving, North Adams, Mass.		May 14
	Advertised, Engineering News, May 14.		
May 21.	Bridge work, Spokane, Wash.		May 14
May 22.	Piers, New York, N. Y.		May 14
May 22.	Subway, Montreal, Que.		May 14
May 22.	Gravel road, Marion, Ind.		May 14
May 22.	Building, Pipestone, Minn.		May 7
May 22.	Sewer, Wilmington, Del.		May 7
	Advertised, Eng. News, May 7 and 14.		
May 22.	Sewer, Fairhaven, Conn.		May 7
	Advertised, Eng. News, May 7 and 14.		
May 22.	Bridges (3), Indianapolis, Ind.		May 7
May 22.	River improvement, Philadelphia, Pa.		Apr. 23
	Advertised, Eng. News, Apr. 23 to May 21.		
May 22.	Meters, engines, etc., Washington, D. C.		Apr. 23
	Advertised, Eng. News, Apr. 23, 30, May 14, 21.		
May 23.	Electric plant, franchise, Martinsville, Va.		May 14
May 23.	Cast-iron water pipe, Washington, D. C.		May 14
	Advertised, Engineering News, May 14.		
May 23.	Water filtration plant, New Haven, Conn.		May 14
	Advertised, Engineering News, May 14.		
May 23.	Bridges (3), Birmingham, Ala.		May 14
May 25.	Lumber, etc., Norfolk, Va.		May 7
	Advertised, Eng. News, May 7 and 21.		
May 25.	Remodeling, Plattsburg, N. Y.		May 14
May 25.	Steam heat, Celina, O.		May 14
May 25.	Paving, Elmira, N. Y.		May 14
May 25.	Brick and cement, Los Angeles, Cal.		May 14
May 25.	Building, New York, N. Y.		May 14
May 25.	Paving, Fort Slocum, N. Y.		May 14
	Advertised, Engineering News, May 14.		
May 25.	Wharf work, Tompkinsville, N. Y.		May 14
	Advertised, Eng. News, May 14 and 21.		
May 25.	Electric light plant, Jackson, Miss.		May 14
May 25.	Water-works, Cando, N. Dak.		May 14
May 25.	Electric wiring, Lockport, N. Y.		Apr. 23
May 25.	Rock excavation, Boston, Mass.		Apr. 23
	Advertised, Eng. News, Apr. 23, 30, May 7, 21.		
May 25.	Dredging, etc., New York, N. Y.		Apr. 30
	Advertised, Eng. News, Apr. 30 to May 28.		
May 25.	Dredging, Norfolk, Va.		Apr. 30
	Advertised, Eng. News, Apr. 30 to May 14.		
May 25.	Ditch, Council Bluffs, Ia.		Apr. 30
May 25.	Paving, Plymouth, Ind.		May 7
May 25.	Spur track, Chattanooga, Tenn.		May 7
	Advertised, Eng. News, May 7 and 14.		
May 26.	Water-works, Alva, Okla.		May 7
May 26.	Power plant equipment, Washington, D.C.		May 7
May 27.	Sewerage, Argentina (Foreign)		Apr. 23
May 27.	Dam work, Rock Island, Ill.		Apr. 30
	Advertised, Eng. News, Apr. 30 to May 28.		
May 27.	Portland cement, etc., Norfolk, Va.		May 7
	Advertised, Eng. News, May 7 to 21.		
May 25.	Bridges (5), Brookings, S. Dak.		May 14
May 26.	Building, Baltimore, Md.		May 14
May 27.	Garbage collection, Hoboken, N. J.		May 14
May 27.	Levee, Terre Haute, Ind.		May 14
May 27.	Sewers, Sunderland, Mass.		May 14
	Advertised, Eng. News, May 14 and 21.		
May 27.	Power house, etc., Rochester, N. Y.		May 14
	Advertised, Engineering News, May 14.		
May 28.	Sewer system, Chattanooga, Tenn.		May 14
May 28.	Building, Fort Wadsworth, N. Y.		May 7
May 28.	Garbage crematory, Winthrop, Mass.		May 7
May 28.	Building, Tompkinsville, N. Y.		Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
May 29.	Paving, Lorain, O.		May 7
May 29.	Bridges (2), Sedan, Kan.		May 7
May 29.	Broken stone, etc., Duluth, Minn.		May 7
	Advertised, Eng. News, May 7 to 28.		
May 29.	Electric elevators, Washington, D. C.		May 14
May 29.	Building, Fort Myer, Va.		May 14
May 29.	Sewers, Aberdeen, S. Dak.		May 14
May 29.	Sea wall, Washington, D. C.		May 14
May 30.	Light-house protection, Mobile, Ala.		May 7
	Advertised, Eng. News, May 7 to June 4.		
May 30.	Beacons, Mobile, Ala.		May 7
	Advertised, Eng. News, May 7 to June 4.		
May 30.	Harbor improvements, Jamaica.		Apr 2
	Advertised, Eng. News, Apr. 2 to May 14.		
Jun. 1.	Coaling plant, Alaska (U. S. Pos.)		Apr. 16
Jun. 1.	Bridge, Gettysburg, Pa.		Apr. 23
Jun. 1.	Electric plant plans, San Diego, Cal.		Apr. 30
	Advertised, Eng. News, Apr. 30 to May 28.		
Jun. 1.	Building, Monticello, Miss.		Apr. 30
	Advertised, Engineering News, Apr. 30.		
Jun. 1.	Building, Montgomery, Ala.		Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
Jun. 1.	Building, New York, N. Y.		May 14
Jun. 1.	Building, Vancouver, Wash.		May 14
Jun. 1.	Paving, Augusta, Ga.		May 14
	Advertised, Eng. News, May 14 to 28.		
Jun. 1.	Sewers, Lestershire, N. Y.		May 14
	Advertised, Eng. News, May 14 and 21.		
Jun. 1.	Sewers, Cuba, N. Y.		May 14
	Advertised, Engineering News, May 14.		
Jun. 1.	Building, Dayton, O.		May 14
Jun. 1.	Electric lighting, Lebanon, Pa.		May 14
	Advertised, Eng. News, May 14 and 21.		
Jun. 1.	Water-works, etc., San Diego, Cal.		May 14
Jun. 2.	Building, Danville, Ill.		May 14
Jun. 2.	Paving, Fort Monroe, Va.		May 14
Jun. 2.	Building, Hamburg, Ark.		May 14
Jun. 2.	Gravel road, Bluffton, Ind.		May 14
Jun. 2.	Bridge, Red Lodge, Mont.		May 14
Jun. 2.	Electric light plant, Pueblo, Colo.		May 14
Jun. 2.	Street railway, Columbus, O.		May 14
	Advertised, Eng. News, May 14 and 21.		
Jun. 3.	Building, Springfield, O.		May 14
Jun. 3.	Bridge, Oak Ridge, La.		May 14
Jun. 3.	Pile revetment, Milwaukee, Wis.		May 7
	Advertised, Eng. News, May 7 to June 4.		
Jun. 4.	Light-house, Baltimore, Md.		May 7
	Advertised, Engineering News, May 7.		
Jun. 4.	Building, Scranton, Pa.		Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
Jun. 4.	Building, San Francisco, Cal.		May 14
Jun. 5.	Steel hull, Grand Rapids, Mich.		May 7
	Advertised, Eng. News, May 7 to June 4.		
Jun. 6.	Sewer system, Washington, D. C.		Apr. 23
	Advertised, Eng. News, Apr. 23 to May 14.		
Jun. 6.	Electric l't system, Ft. Leavenworth, Kan.		May 14
Jun. 6.	Cast-iron pipe, Washington, D. C.		May 14
	Advertised, Eng. News, May 14 to June 4.		
Jun. 8.	Storage reservoir, Bozemont, Mont.		May 14
	Advertised, Eng., News, May 14 and 21.		
Jun. 8.	Pumping engine, etc. Lancaster, Pa.		May 14
	Advertised, Eng., News, May 14 and 21.		
Jun. 8.	Barracks, Alaska (U. S. Poss.)		Apr. 23
Jun. 8.	Defense towers, Portland, Ore.		Apr. 30
	Advertised, Eng. News, Apr. 30 to May 21.		June 4
Jun. 8.	Building, Cleveland, O.		Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
Jun. 9.	Alterations, St. Paul, Minn.		Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
Jun. 9.	Training wall, St. Augustine, Fla.		May 14
	Advertised, Eng. News, May 14 to June 11.		
Jun. 9.	Paving, Steubenville, O.		May 14
Jun. 10.	Bridge, Terre Haute, Ind.		May 14
	Advertised, Eng., News, May 14 and 21.		
Jun 10.	Macadamizing, Bowling Green, O.		May 14
Jun. 10.	Pile dock, New York, N. Y.		May 14
	Advertised, Eng. News, May 14 to Jun. 11.		
Jun. 11.	Building, Paducah, Ky.		May 14
Jun. 12.	Removing wrecks (U.S. Poss.), Cuba		May 7
Jun. 13.	Railway materials, Siam		Feb. 5
Jun. 15.	Breakwater, Manila, P. I.		Mar. 12
	Advertised, Eng. News, Mar. 12 to May 14.		
Jun. 15.	Railway material (foreign), Siam		May 14
Jun. 18.	Street lighting, Portland, Ore.		Apr. 23
Jun. 20.	Sewers, Washington, D. C.		May 14
	Advertised, Eng. News, May 14 to Jun. 11.		
Jun. 30.	Dredges, Philadelphia, Pa.		May 14
	Advertised, May 14, 21, and Jun. 11, 18.		
Jun. 30.	Railway (foreign), Spain.		May 14
Jun. 30.	Fencing, Gettysburg, Pa.		Apr. 16
Jun. 30.	River work, New Orleans, La.		May 7
	Advertised, Eng. News, May 7, June 18, 25.		
July 1.	Electric lighting, etc., Rangoon, India		Feb. 5
July 1.	Railway, Argentina (Foreign)		Apr. 23
July 13.	Building, La Grange, Ga.		May 7
May 2. '04.	Railway, South Australia.		Feb. 5
No date.	Street cars, Jacksonville, Fla.		May 14
	Advertised, Eng., News, May 14 and 21.		

RAILWAYS.

ARKANSAS, MISSOURI & KANSAS.—D. W. Spooner, Ch. Engr., Joplin, Mo., informs us that surveys are made and rights of way are now being secured. Capital secured. Line will be about 400 miles long. A. N. Hoxie, Boston, Mass., is Pres.

BELLINGHAM BAY & BRITISH COLUMBIA.—J. J. Donovan, Ch. Engr., Whatcom, Wash., advises us that contracts for the extension from Hampton to Lynder, about 5½ miles, will be let about June 1. Surveys now complete and right of way partially obtained.

BISMARCK, WASHBURN & GREAT FALLS.—Work has started on the extension north of Washburn, Minn., for distance of 18 miles. E. A. Whitman is Ch. Engr., Bismarck, N. Dak.

BLACKWELL, FAIRMONT & SOUTHERN.—T. S. Chambers, Pres., Blackwell, Okla., writes that nothing definite has been done under this incorporation, the purpose of which is to extend other lines now being constructed. About 150 miles will be built. Chief engineer not appointed.

DELAWARE & HUDSON.—Company will purchase New York & Ottawa R. R., and build single track connection from Loon Lake on the D. & H. to point near St. Regis Falls, on N. Y. & O., 21 miles. Jos. MacMartin is Ch. Engr., Albany, N. Y.

DES MOINES & SOUTHERN.—The Katz Construction Co., of Omaha, Neb., has received the contract for constructing this road from Des Moines southwest through Winterset, Greenfield, Adair and Red Oak. Right of way purchased and engineering done. President Cherry, Chicago, states that the line will finally be 293 miles long.

EL PASO & SOUTHWESTERN.—Additional branch lines in Arizona are under consideration. Five surveying parties are now in the field locating the new lines. Work will soon begin on the extension to Nacozari, and on the 16-mile branch from Douglas to Naco. H. J. Simmons is Gen. Supt., El Paso, Tex.

FAIRMONT & COLFAX SHORT LINE.—M. Powell, Secy., Fairmont, W. Va., writes that surveys for six-mile line to Hoult, Fairmont and Colfax are made and profiles recorded. Capital organized; no contracts let to date. Levi B. Harr is Pres. and Carl R. Horner Ch. Engr., both of Fairmont.

FARMERSVILLE & SOUTHERN.—Surveys being made and work under way at Farmersville, Mo. Work being done by day labor. Right of way being secured. Line to be 25 miles long. H. Rohwer, Ch. Engr., St. Louis, Mo., advises us as above.

GREAT NORTHERN.—A line from O'Neill to Dunning, Neb., is contemplated. Rights of way are now being considered. Line would be 80 miles long. A. H. Hogeland is Ch. Engr., St. Paul, Minn.

LAKE SHORE & MICHIGAN SOUTHERN.—Surveys completed for new spur track connecting company's tracks south of Grand Rapids, Mich. E. A. Handy is Ch. Engr., Cleveland, O.

LAWTON, WICHITA & GULF.—Right of way secured through grazing lands between Lawton and the Red River; line to be 600 miles long. J. S. Lozier, Ch. Engr., Lawton, Okla., is authority for above.

MEMPHIS & GULF.—This company, recently incorporated, has begun surveys both north and south from Meridian, Miss. Its line will run from Memphis to Pensacola, with a branch to Mobile, Ala. H. P. Farrar is Ch. Engr., and Chester H. Pond is prominently connected with the project. At Meridian shops will be located.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Contract let to Richards, Lundeen & Co., Minneapolis, Minn., for about 125 miles of new line extending from Glenwood through Alexandria and northward through the White Earth, Minn., reservation. Line is expected to touch Detroit and to be completed within a year.

NEW YORK CENTRAL.—Mayor Low, of New York, has signed the Terminal bill, providing for depressed tracks, viaducts for streets and a new Grand Central Station in New York city, on which $20,000,000 will be expended. Work shall be started within 30 days. The yards along Lexington Ave., from 45th to 56th St., will be depressed and the tunnel line electrified. Five years is allowed within which to complete the work, but it is expected to have it done before that time. H. Fernstrom is Ch. Engr., New York.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

NORTHERN PACIFIC.—Reports from Spokane, Wash., state that Deeks & Deeks have a contract for concrete construction on this road amounting to $70,000.

OCILA, PINEBLOOM & VALDOSTA.—B. B. Gray, Pres., Pinebloom, Ga., informs us that surveys are completed and rights of way secured. The company is doing its own construction and has six miles to build to reach Nashville. The line will be 17 miles long. O. Gotchell is Ch. Engr., Lellaton, Ga.

PENNSYLVANIA R. R.—Chief Engineer W. H. Brown, Broad St. Station, Philadelphia, Pa., wants bids for regrading and eliminating sharp curves on the Pittsburg Division at Derry Summit, between Latrobe and Millwood. This piece of work will require a cut of nearly seven miles and 130 ft. in some places in the foothills of the Alleghanies. About 4,500,000 cu. yds. will be excavated.

PENNSYLVANIA R. R.—Drake & Stratton Co., 32 South Broad St., Philadelphia, received the contract for a tunnel for two tracks on the line of the P. B. & W. R. R. in Washington, D. C., to be about five miles long.

SALEM & EASTERN.—A survey is being made from Afton, on Spring River, to Fayetteville, Ark., by W. K. Palmer, Kansas City, Mo. Line will run from Poplar Bluff, Mo., to Salem, Mountain Home, Huntsville, Ark., to Fayetteville.

SAN FRANCISCO TERMINAL RY. & FERRY CO.—This company has voted an issue of bonds to raise $6,000,000 to purchase land in San Francisco, Cal., for terminal purposes.

SEABOARD AIR LINE.—J. W. Bushnell, Ch. Engr., stated recently that arrangements would be completed May 2 for the construction of the line into Birmingham, Ala., and that the line would be running before the end of the year.

SOUTHERN.—The proposed Maryville, Tenn.-Bushnell, S. C., line, some 65 miles long, is soon to be contracted for. W. H. Wells is Ch. Engr. Construction, Washington, D. C.

WABASH R. R.—A vote was taken May 5 by the stockholders on the issue of $10,000,000 of bonds for acquiring additional terminal facilities in Toledo, St. Louis, Chicago, Quincy, Kansas City, Detroit and other points.

WESTERN PACIFIC.—Surveys in progress, right of way being purchased and contracts to be let soon for this road. Line will run from San Francisco, Cal., via Stockton, Oroville and Beckwith Pass to Salt Lake City, and be about 850 miles long. W. J. Bartnett is Pres. and Geo. L. Dillman Ch. Engr., both of San Francisco. J. B. Wallace, San Francisco, informs us as above.

NEW INCORPORATIONS AND CHARTERS.

CHICAGO & MOMENCE.—Ill.—Capital, $100,000. Line to run from Chicago south to Harvey and to point near Hammond, Ind. Howard M. Carter, Sidney W. Worthy and Geo. A. Critton, Chicago, are incorporators.

CHIPPEWA FALLS, PHILLIPS & NORTHEASTERN.—Wis.—Incorporated to build from Chippewa Falls to Woodruff, about 115 miles; capital, $25,000; headquarters, Phillips, Wis. Wallace W. Johnson and M. F. Cure, Chicago, are interested.

CLEVELAND, LORAIN & WHEELING.—Ohio.—Amendments to charter to build through Bellaire, O., to connect with the B. & O. and for branch line from Sheffield, Lorain county, to the lakes at the mouth of Black River.

KANAWHA & NORTHERN.—W. Va.—Chartered with $10,000 capital to build road from the mouth of Big Otter on Elk River to Parkersburg. V. L. Black and Angus McDonald, Charleston, and F. M. Graham, Ivydale, are incorporators.

LAKE ERIE & PITTSBURG.—Ohio.—Capital, $100,000. Incorporated to build from Lake Erie to Youngstown. W. B. Thompson, Percy J. Robinson and C. L. Permly are incorporators.

NEW YORK SHORT LINE.—Pa.—Charter granted; capital, $250,000; to built cut-off from S. & N. division of the Philadelphia & Reading R. R. to Neshanning. Geo. F. Baer, Pres. P. R. R., and other officials of that company are incorporators.

STREET AND ELECTRIC RAILWAYS.

MANCHESTER, N. H.—E. S. George, Gen. Supt., writes that surveys are made and that contracts will be let very soon for the electric road from Shirley Station to the top of Uncanoonuc Mt., about three miles long, which will be built by the Uncanoonuc Incline Ry. & Development Co. Route is over private right of way. E. C. Smith is Pres.

HARTFORD, CONN.—The railroad committee of the house of representatives has reported favorably on the resolution authorizing the Hartford St. Ry. Co. to extend its road south from Wethersfield into Rocky Hill. The Windsor Locks & Rainbow St. Ry. Co. is authorized to increase its capital stock from $100,000 to $300,000. Company will build a connecting line between Windsor and Suffield.

SCHENECTADY, N. Y.—The Schenectady Ry. will build a branch line from this city to Altamont. C. C. Lewis is Ch. Engr.

ALBANY, N. Y.—The Albany & Catskill Ry. Co. has incorporated with $350,000 capital; will operate 35-mile electric road from Catskill to Kenwood over Bethlehem turnpike. Principal office, Newburg. J. M. Sheehan, of that city, is chiefly interested.

PENN YAN, N. Y.—The Lake Keuka & East Side R. R. has incorporated with $130,000 capital, to build electric road between Penn Yan and Keuka, on Lake Keuka, 13 miles. C. H. Hanscomb, Penn Yan, and David E. Hoover, Keuka, are interested.

NEW YORK, N. Y.—President Winter of the Brooklyn Rapid Transit Co. has advised the Rapid Transit Commission that the company will carry out the plans of Chief Engineer Parsons to connect the Manhattan end of the Brooklyn Bridge with the Brooklyn railway system by a subway to Maiden Lane and a tunnel under the East River to Tillary St. if the company would have a lease for 100 years.

BUFFALO, N. Y.—Stockholders of the Buffalo & Williamsville Electric Ry. will meet May 14 to vote on increase of stock from $75,000 to $3,500,000. Funds will provide for double track road between this city and Rochester.

JOHNSTOWN, PA.—John Downey, Ch. Engr. Johnstown & Scalplevel St. Ry., writes that surveys will start at once. Franchise in this city pending. Part of capital subscribed. Road will be an electric and city and interurban line. Joseph Ruth is Pres.

MORGANTOWN, PA.—The Morgantown St. Ry. Co. will be four miles long, and operated by third rail system. Part of right of way secured. J. H. Johnson, Ambler, is interested.

LEBANON, PA.—Six mile extension of the Lebanon Valley St. Ry. contemplated. J. S. Rigg is Pres.

CORRY, PA.—Surveys are being made for line of the Erie, Cambridge, Union City & Corry Electric Ry. from Erie to Corry. A. H. Engstrom is Engr., Bullitt Bldg., Philadelphia.

UNIONTOWN, PA.—Wm. E. Crow, Pres. Mt. Pleasant, Pleasant, Union & Baggaley Elec. St. Ry. Co., informs us that surveys are completed for the proposed road and the company is ready to begin taking rights of way. No contract yet awarded. Line will be 16 miles long, and will pass through a section now without railway facilities, touching some six or seven towns besides those named. Elliott & Baton, Keystone Bldg., Pittsburg, are the engineers.

CUMBERLAND, MD.—The county commissioners have granted a franchise to the Luke, Westernport & Keyser Electric Ry. Co. to build a line from Luke to McCoole, Md. Work will begin within three months. A bridge over the Potomac River is contemplated.

NORFOLK, VA.—O. D. Jackson, Pres. Jamestown, Yorktown & Old Point Ry., writes that surveys are completed and about 50% of right of way secured for proposed electric road, about 55½ miles long. Capital not fully arranged for, but will likely be, and work commenced this year. R. T. Peirce, Jr., Newport News, Va., is Ch. Engr.

JACKSONVILLE, FLA.—Mason & Elwes, of this city, wish to purchase six motor cars not less than 45 ft. long, with double trucks, with or without motor equipment. (See advertising columns.)

VICKSBURG, MISS.—The Vicksburg Ry. & Power Mfg. Co. will extend its tracks from this city to Waltersville, about two miles. J. H. Pallister is Ch. Engr.

MEMPHIS, TENN.—Frank G. Jones, Vice-Pres. and Gen. Mgr. Memphis St. Ry, states that several extensions are contemplated for the near future.

MEMPHIS, TENN.—The Memphis Consolidated Gas & Electric Co. has been granted permission to extend its conduit system at a cost of $35,000. S. T. Carnes, Gen. Engr., states that work will be undertaken at once.

GLASGOW, KY.—Surveys started for electric road from this place to Burkesville, via Edmonton, Marrowbone, Summer Shade and Horse Cave. A line from Summer Shade to Tompkinsville, 10 miles, will also be built. The Cumberland Valley R. R., cap. $300,000, will build the road.

NEW LEXINGTON, O.—Perry County Electric Light & Ry. Co. has been incorporated; cap., $500,000; electric line through Perry, Coshocton, Licking and Knox counties will be built.

SPRINGFIELD, O.—The Dayton, Springfield & Urbana Electric Ry. Co. will build a second track in North Limestone St.—Fred J. Green writes us that the Champion Construction Co., Springfield, has the contract for building the 35-mile electric road of the Springfield, Troy & Piqua R. R. Co., and has graded seven miles, set poles for three miles, and is pushing work on the remainder of the construction. E. M. de Bruin is Ch. Engr., Springfield.

UPPER SANDUSKY, O.—O. C. Stutz has sold his interest, franchise and right of way in the Tiffin-Marion Electric Ry, to J. D. Johnson, Wharton. Work will soon be started.

COLUMBUS, O.—Columbus, London & Springfield has increased its capital by $1,000,000, and will improve its property with the proceeds. C. A. Alderman is Ch. Engr.

COLUMBUS, O.—Bids are wanted by the Scioto Valley Pool, 42 Board of Trade Bldg., Columbus, until June 2, for grading and masonry on an extension of nine miles, from Circleville to Kingston. J. C. Hooven, Pres.; A. W. Jones, Ch. Engr. and Gen. Mgr. (See advertising columns.)

INDIANAPOLIS, IND.—The Logansport, Hammond & Chicago Traction Co. has filed articles of incorporation with $1,000,000 capital for an extension of a line now building from this city to Logansport, which will finally reach Chicago. Geo. F. McCulloch, H. S. Stilwell and Arthur W. Brady are interested.

CARBONDALE, ILL.—Contracts will be let for the 12-mile line of the Carbondale, Carterville Coal & Traction Co., as soon as the rights of way are secured. Surveys will commence immediately; capital partly secured. D. Frazer is Pres., Chicago; E. Sponsler, Supt. and Gen. Mgr., Carbondale, informs us as above.

MONMOUTH, ILL.—S. S. Hallam, Monmouth, writes that the Illinois Union Traction Ry. Co. is incorporated and preliminary surveys are made and rights of way secured. Line will be an electric, some 165 miles long. W. N. McCullough, Monmouth, is Pres., and W. D. Ball, Chicago, Ch. Engr.

CEDAR RAPIDS, IA.—The Burlington & Keosauqua Ry. & Power Co. is a new organization which will soon incorporate to build an interurban line between the points named. Three routes already surveyed; est. cost of line, $750,000. Power will be secured at Keosauqua. Royal H. Holbrook is interested, and has completed preliminary work.

TABOR, IA.—M. L. Hackett, of this place, is interested in the proposed electric line from Des Moines to Kansas City.

SIDNEY, IA.—Local papers report an electric railway project which will provide a road from Council Bluffs to Rockport by way of Riverton, Anderson and Hillsdale. W. J. Dodds is interested.

IOLA, KAN.—Arrangements are completed for the organization of electric railway company to build from Iola to Humboldt and south to Pittsburg, and a charter will soon be taken out in New Jersey. Engineering work will start at once and as soon as completed contracts will be let. Capital, $325,000. T. M. Hyde is Pres., and L. P. Stover, Ch. Engr.

NEBRASKA CITY, NEB.—Amended articles of incorporation filed by the Nebraska City Ry. Co.; capital, $150,000. Lines in Nebraska City and Otoe county planned. H. H. Barthing is Pres., and John C. Watson, Secy.

TEKAMAH NEB.—L. F. Wakefield, Sioux City, has been employed as engineer for the proposed Omaha & Sioux City Electric R. R., and will start work at once. Rights of way now being secured. P. B. Gordon is Pres., and A. M. Anderson is Secy.

ST. LOUIS, MO.—Chas. D. Bennett, Ch. Engr., St. Louis, Hillsboro & Southern R. R., Wainwright Bldg., St. Louis, informs us that surveys are completed for the proposed road and rights of way obtained. Capital for construction and equipment secured. Mr. Bennett says that owing to the labor situation at the World's Fair contracts will not be let for a time for grading, etc., but a steel bridge 400 ft. long across the Meramee River may be contracted for. Road will be an electric 39.6 miles long, and will touch seven prominent towns besides those named. Thomas F. Sneed is Pres., St. Louis.

FT. SMITH, ARK.—The Ft. Smith Light & Traction Co. was formed to purchase the Ft. Smith Traction Light & Power Co. and the Ft. Smith & V. B. Light & Transit Co. R. S. Hunt, Ft. Smith, is Ch. Engr.

EL PASO, TEX.—The El Paso St. Ry. will probably be extended from this city to Yaleta. Extension to Fort Bliss also probable. Stone & Webster, Boston, Mass., are Mgrs.

OLYMPIA, WASH.—Construction is under way on the line of the Capital City Traction Co., 3½ miles. E. B. Conner informs us that other contracts will be let soon. J. B. Weddell is Pres. and Ch. Engr.

SPOKANE, WASH.—The Spokane Traction Co. and the Spokane & Coeur d'Alene Electric Ry. Co. have purchased rails for their new lines from the Colorado Fuel & Iron Co. Contracts call for 3,800 tons of 60-lb. rails.

WHATCOM, WASH.—The county commissioners have granted a franchise to George and Charles Nolte and W. J. Molloy to construct an electric line from Whatcom to Blaine, touching Marietta, Ferndale, Lynden and Birch Bay.

FRESNO, CAL.—W. H. McKenzie states that the Fresno City Ry. Co. will extend its line to J St. at once.

LOS ANGELES, CAL.—The Pacific Electric Ry. Co. has asked the Santa Ana Valley Development Co. for right of way in Santa Ana canyon for electric road from Corona to Riverside.

SAN FRANCISCO, CAL.—City Engineer Grunsky will prepare plans for the conversion of the Geary St. railroad into an electric system.

WALLACE, IDAHO.—H. J. Rossi, who recently applied for franchise in this city for an electric railway, writes us that preliminary surveys have just been completed and franchises are now pending. Sufficient capital is assured. Company not yet formed and plans not further developed. Line will be 40 miles long, and touch Wallace, Mullen, Osborn, Kellogg, Wardner and Silver King, Idaho.

GUELPH, ONT.—The plan to build a street railway from Guelph to Puslinch, for which the city voted $25,000, has been abandoned. A charter has been applied for the Guelph & Georgian Bay Ry. G. B. Ryan is interested.

ST. CATHARINES, ONT.—J. S. Campbell, Secy. Bd. of Trade, informs us that surveys are made and rights of way secured for the 15-mile electric road of the Niagara, Queenstown & St. Catharines R. R., and the capital is promised. Denton, Dunn & Boulthee, barristers, Toronto, are solicitors for the road.

STANBRIDGE, QUE.—Felix S. S. Johnson, U. S. Commercial Agent, reports a project for an electric railway through the south shore counties and eastern townships of Quebec. Two main lines will be commenced this season, one to connect Montreal with St. Johns by way of Lengueuil and Chambly, the other between Montrose and Valleyfield, via St. Lambert, Laprairie, Chateauquay and Beauharnois. The road will be built with heavy tracks, and equipped with cars 50 ft. long, capable of going 50 miles an hour. Connections will be made with various systems in New York state. American capital is reported behind the scheme.

LIGHT, HEAT AND POWER PLANTS.

ELLSWORTH, ME.—It is stated that the Bar Harbor & Union River Power Co., Geo. F. West, Treas., Portland, Me., is to develop 4,500 HP. on the Union River near this place.

MADISON, ME.—A committee, of which Hiram Moore is a member is to secure plans and estimates for an electric plant on Sandy River.

FAIRFAX, VT.—The contract for development of power at Fairfax Falls for the Vermont Power & Manufacturing Co. has been let to the National Gas & Construction Co., Philadelphia.

MILLER'S FALLS, MASS.—Public electric plant considered.

NORTH EASTON, MASS.—$3,800 has been appropriated for erecting, lighting and maintaining street lamps. Wm. H. Ames is on committee.

OTIS, MASS.—It is stated a company recently incorporated, with Chas. L. Flint, Boston, Mass., as Pres., is to erect a dam in the Farmington River for power purposes. It is proposed to convey the water in a five-mile steel or concrete pipe to New Boston, where a power plant will be erected. The cost of the work is estimated at $1,000,000.

WESTERLY, R. I.—Municipal lighting considered.

CHARLOTTE, N. Y.—Rochester & Lake Ontario Water Co. has offered to buy village electric light plant and water-works for $15,000 and $35,000 respectively.

ROCHESTER, N. Y.—Bids are asked until May 27 for construction of power house and conduit to Infirmary Building at Rochester State Hospital. G. L. Heins, State Arch., Albany, N. Y., T. E. McGarr, Secy. State Lunacy Com. (See advertising columns).

KEYPORT, N. J.—Plans for a power plant at this place for the Jersey Central Traction Co. are being made by the Vandergrift Construction Co., Drexel Bldg., Philadelphia, Pa. Entire new equipment will be installed.

HARRISBURG, PA.—The Enola Illuminating Co., has secured a franchise for new works at Enola and will soon be in the market for equipment. F. P. Snodgrass, Third St., Harrisburg, is said to be interested.

LEBANON, PA.—Bids are asked until June 1 for furnishing city with 135 arc lights and about 50 incandescents. J. L. Beckley, Cy. Clk. (See advertising columns).

MECHANICSBURG, PA.—The Mechanicsburg Heat, Light & Power Co. is soon to start work on a new power plant at this place. Complete new equipment will be purchased.

MARTINSVILLE, VA.—Bids are asked until May 23 for granting franchise for installing electric light plant for city. A. S. Gravely, Clk.

HIGH POINT, N. C.—The necessary capital is stated to have been raised for putting in an electric plant at this place.

BARTOW, FLA.—C. E. Bagley, Mayor, writes us that they are repairing old electric light plant so as to have lights as soon as possible. After this new machinery will be placed to make the plant up to date. The additions will consist of new engine, dynamo and wiring.

VICKSBURG, MISS.—We are informed that the Vicksburg Railway & Light Co. is to build a new power house, large enough to operate 20 cars and to light a city of 20,000 people. Address Harry K. Johnson.

OAKLAND, KY.—We are informed that bids were received May 4 from the Ashland Electric Light & Power Co., at $51 per lamp, and from Jno. Kobs & Co., at $30 per lamp, for electric lighting city streets for term of ten years.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

COLUMBUS, O.—The contract for furnishing wire for the municipal electric light plant has been let to the Erner-Hopkins Co. for $18,183.

OBERLIN, O.—Franchises for a term of 25 years for a lighting and heating plant have been granted to the Oberlin Light & Heating Co.

SPRINGFIELD, O.—Stated that Citizens' Light, Heating & Power Co. is to erect a new plant. John L. Zimmerman is interested.

BLUFFTON, IND.—Stated that all bids have been rejected for constructing new electric light plant in this city. New plans are to be prepared by M. R. Ashe, Arch., Richmond, Ind., and new bids asked.

NOBLESVILLE, IND.—Thomas Griffin writes us that plans and estimates for a power plant to be erected 2½ miles north of the city are being made by R. C. Beardsley, of Beardsley Gravity Dam & Construction Co., Elkhart, Ind. The plant is to be owned by a private company and will cost about $80,000.

CONSTANTINE, MICH.—The Constantine Hydraulic Co., which has constructed a power plant on the St. Joseph River, is said to contemplate the development of another water power at Mottville, eight miles below here.

JACKSON, MICH.—Bids are asked by the building committee, Capitol Light & Power Co., until May 25, for furnishing three 150-HP. each, boilers, 200-KW. multiple 2,300 volt alternator, direct connected to 300-HP. engine, 100-KW. alternator direct connected to 150-HP. engine; also steel smoke stack, 25-HP. induction motor and wires and supplies, etc., for new electric light plant. Kirkpatrick & Johnson, Engrs.

LAPEER, MICH.—A 30-year franchise for a gas plant has been granted to Geo. T. Hargreaves and others.

BELVIDERE, ILL.—The plant of the Columbia Heating Co. has been sold to a syndicate, who will, it is said, make some enlargements. E. M. Fancher is Gen. Mgr.

MORRISON, ILL.—E. A. Smith and H. S. Green are stated to be interested in a project for developing the water power of Rock River at Lyndon. It is said that $150,000 will be spent on the dam, hydraulic work, and electrical and transmission lines.

DES MOINES, IA.—The state capitol building is to be improved at a cost of $80,000. The improvements include a new electric lighting system, a new heating system, ventilations.

MARSHALLTOWN, IA.—Mayor L. B. Jones writes us that the matter of gas or electric light plant has been dropped and nothing will be done at present.

VAIL, IA.—Lighting question being agitated.

FORT LEAVENWORTH, KANS.—Bids are asked until June 6 for an electric lighting system at Fort Leavenworth. Maj. D. E. McCartny, Q. M.

CARLETON, NEB.—Lights agitated.

GRESHAM, NEB.—Private electric plant proposed.

HEBRON, NEB.—C. M. Wetherald has been granted an electric light franchise.

PIERCE, NEB.—Gas plant talked of.

SPEARFISH, S. DAK.—It is stated that the Homestake Mining Co., owner of the local electric light plant, is to build a new plant nearer the city.

BOZEMAN, MONT.—Electric light and street railway plant of Bozeman Light & Power Co. is to be purchased by Eastern parties. Samuel Mendenhall is Mgr.

NEW FRANKLIN, MO.—Stated that city will construct electric light and water plants.

PUEBLO, COL.—Bids are asked by the Lunacy Commissioners until June 2 for installing electric lighting plant and wiring system for asylum buildings. W. W. Grant, Pres.

COLORADO SPRINGS, COLO.—It is stated that the Hydro-Electric Co. intends later on to build a second power station on Ruxton Creek, near the Half-Way House. Geo. A. Taff is Gen. Mgr.

ELLENSBURG, WASH.—This city contemplates the improvement of its municipal plant, either by increasing its present steam plant or by constructing a water power, diverting the water for this from the Yakima River. A. McL. Hawkes, Berlin Bldg., Tacoma, Wash., has been engaged as Cons. Engr. Geo. Sayles is Cy. Clk.

PORT ANGELES, WASH.—Reports state that bids are asked until May 20 by the council for a 60-KW. 2,200 volt alternator with switchboard complete; also one 500-light and five 100-light transformers. The bidder in to superintend installation and is to take in part payment two 15-KW. Edison D. C. dynamos.

BAKER, ORE.—J. K. Romig, Supt. Sanger Gold Mines Co., writes us that surveys are not yet completed for proposed plant. The plant is to be operated by water and the electricity transmitted for light and power.

INDEPENDENCE, ORE.—The city is to enter into a five-year contract with the Independence & Monmouth Water & Electric Light Co. for furnishing light and water.

SUMPTER, ORE.—The Beaver Mining Co., according to reports, will erect a power plant on the Elkhorn Slope. It is also said that R. E. Strahorn will construct a plant to furnish Sumpter with light and power.

IMPERIAL, CAL.—It is reported that $5,000 will be spent by the Imperial Water Co. in developing the water power at East Side.

LOS ANGELES, CAL.—It is stated that the Spreckels Independent Electric Lighting Co. propose to erect an electric power plant in this city to compete for street lighting contracts.

PLACERVILLE, CAL.—The Pyramid Power Co., which is capitalized at $5,000,000 is said to propose the generation of 35,000 HP. from the water of Silver Creek. S. P. Jewett is at the head of this enterprise.

READING, CAL.—The Siskigon Electric Light & Power Co. has purchased the Ashland (Ore.) plant for $40,000.

SAN BERNARDINO, CAL.—The San Bernardino Electric Light & Power Co. has passed into the control of the Pacific Light & Power Co.

SAN FRANCISCO, CAL.—Reports state that Northern California Power Co. will extend its electric line 20 miles from Cow Creek to De La Mar.

SAN FRANCISCO, CAL.—A meeting of the San Luis Gas & Electric Co. is to be held at office of Thomas & Gerstle, 222 Sansome St., July 6, to consider creation of bonded indebtedness of $1,000,000 for constructing and increasing its plant. Robt. N. Frick is Secy.

STOCKTON, CAL.—The American River Electric Co. has asked for an electric light and power franchise.

UKIAH, CAL.—The Eel River Electric Light & Power Co. is said to plan the construction of a flume and ditch line from a point on Cold Creek to the old Cleveland mill, where it is proposed to erect an electric power station, operated by water power.

VANCOUVER, B. C.—The Vancouver Power Co. has let the contract for the riveted steel pipe to carry the water to its power house, to the Vancouver Engineering Works for about $67,000.

BONDS.—Sandersville, Ga., votes to issue $37,000 electric light and water bonds.——Ashley, Ill., will issue $5,000 electric light plant bonds.——Lincoln, Neb., through Beman C. Fox, Treas., will receive bids until May 25 for $65,000 lighting plant bonds.——Athens, O., by W. B. Golden, Village Clk., will receive bids until May 25 for $15,000 electric light plant bonds.——Belding, Mich., will issue $2,000 electric light bonds.——Pelican Rapids, Minn., propose to issue $10,000 of bonds to establish electric light plant.——Renville, Minn., votes to issue $10,000 of bonds for gas plant.

NEW COMPANIES.—Merchants' Co-operative Lighting Co., Centralia, Ill.; $5,000; Wm. B. Smith, O. V. Parkinson, Wm. Benjamin.——Mayro Keeney, J. M. Sheehan, A. F. Kibbe and others have been granted a charter to engage in electric light and power business in Somers, Conn. The company can have a capital of $25,000 with privilege of increasing to $50,000.——Collinsville Electric Light Co., Collinsville, Conn.; $5,000; J. B. Lougee, J. D. Andrews, E. A. Perkins.——Calumet Light, Heat & Power Co., Calumet, Mich., $80,000; P. P. Roenn, John Burder, A. W. Kerr.——Clementon Electric Light Co., Clementon, Pa.; Jacob Ludy, Henry W. Bassett, Joseph Borden. The company will light Laurel Springs, Overbrook and Lindenwold.——Citizens' Light & Power Co., Seattle, Wash.; $5,000; Jas. H. Cane, Jas. McCafferty.——Choctaw Gaslight, Heat & Power Co., St. Louis, Mo.; $150,000; O. H. Hoss, Stanley D. Pearce, G. S. Hoss.

BRIDGES

WESTBROOK, ME.—Reported that $10,000 granite and steel bridge is to be built over Presumpscott River by this city.

SOMERSWORTH, N. H.—Contract for iron bridge over Salmon Falls River has been let for $1,3[illegible] to Portsmouth Construction Co., Portsmouth, N. H.

ISLAND POND, VT.—The Grand Trunk R. R. has made an agreement with the town officials whereby several overhead bridges are to be constructed by the railroad at a probable cost of $30,000 or $40,000.

LAWRENCE, MASS.—A bridge is to be built on South Union St., over tracks of B. & M. R. R., to cost about $20,000. Of this sum half will be paid by the railroad and the remainder by the county, the city and the B. & N. St. Ry.

PALMER, MASS.—We are informed that a stone arch bridge, 70 ft. long, estimated cost $6,000, is projected; also a two-span, 94 ft. each, iron bridge, estimated cost, $5,000. Mace Moulton, Springfield, Mass., is Des. Engr.; W. H. Brainerd, Town Engr.

SALEM, MASS.—Legislature has passed bill authorizing Essex county commissioners to construct a $100,000 bridge over the Danvers River, between Salem and Beverly.

WOONSOCKET, R. I.—We are informed that money has been appropriated and detailed plans made for rebuilding South Main St. bridge. Frank H. Mills, Cy. Engr.

HARTFORD, CONN.—A bill is before the legislature to construct an $8,000 bridge over the Naugatuck, between Litchfield and New Haven counties.

ALLEGANY, N. Y.—Contract for constructing iron bridge over Allegany River has been let to the United Construction Co., Albany, N. Y., for $7,800.

BUFFALO, N. Y.—For the erection of a new bridge over the Buffalo River at Ohio St., $10,000 has been placed in the city budget for next year.

CARTHAGE, N. Y.—The contract for two iron bridges has been let to the Climax Road Machine & Bridge Co., Marathon, N. Y., for $1,124.

CORNING, N. Y.—Thirteen bids were received for constructing the Gibson bridge, ranging from $29,000 to $44,000. The Rochester Bridge & Construction Co., Rochester, N. Y., was said to be the lowest with the Penn Bridge Co. next. Robt. O. Hoyt is Cy. Engr.

NEW YORK, N. Y.—The contract for strengthening the tower foundations for the Manhattan Bridge at a cost of $150,000, has been let to John C. Rogers. The work will consist of adding several layers of heavy masonry to the present piers.

NEW YORK, N. Y.—Bids are asked by the Park Board, Arsenal Bldg., until May 21 for constructing concrete steel arch bridge with stone parapet walls and stone arch facings over Bronx River, at crossing of Bronx and Pelham Parkway. (Readvertisement.) Wm. R. Wilcox, Comr.

PORT CHESTER, N. Y.—Citizens are petitioning for viaduct over Harlem R. R. tracks at Mt. Vernon Hill. The bridge would cost $100,000.

TONAWANDA, N. Y.—The contract for a new bridge over the Two Mile Creek on the River Road has again been let to the Rochester Bridge & Construction Co. The cost will be $7,900.

GLENS FALLS, N. Y.—The contract for a bridge at Glens Falls has been let to the Climax Road Machine & Bridge Co., Marathon, N. Y., for $9,500.

NEWARK, N. J.—Frederick W. Dashe has been appointed engineer by the Hudson and Essex county freeholders, to have charge of the reconstruction of the bridge from Harrison Ave., Harrison, to Bridge St., Newark, over the Passaic River. Plans and specifications were also ordered drawn for a new bridge over Hackensack River on Newark Plank Road. The improvement of the road was also ordered.

MILLTOWN, N. J.—County Freeholders are to include $6,000 in annual budget toward bridge for this place.

SOMERVILLE, N. J.—Somerset and Union counties will erect a $7,000 bridge to span Green Brook at Girard Ave.

ERIE, PA.—Bids are asked until May 18 for constructing abutments and piers for the Buffalo Road overhead bridge. B. E. Briggs, Cy Engr.

MOLINO, PA.—The contract for 133 ft. bridge here has been let to Nelson & Buchanan, Chambersburg, Pa., for $4,848.

PITTSBURG, PA.—It is stated that the Pennsylvania Co. will build a $7,000 trestle from Canal Dover to the furnaces of the Penn Iron Co.

DOVER, DEL.—The contract for a three arch stone bridge at Silver Lake has been let to James A. Hirms, for $7,600.

BESSEMER, ALA.—It is stated that the Birmingham Railway Light & Power Co. is to build a bridge over the railroad tracks at Tenth Ave.

OAK RIDGE, LA.—Bids are asked until June 3 for erection of 150-ft. steel bridge. J. S. Rolfe, Comr.

BIRMINGHAM, ALA.—Bids are asked until May 23 for constructing three steel bridges; also masonry abutments. A. J. Tarrant, Pres. County Bd. of Revenue.

COLUMBUS, O.—The county commissioners have authorized the construction of a double viaduct on Cleveland Ave., to cost $70,000.

NEWBURG, O.—The Newburg & South Shore Railway Co., has increased its capital stock and will, it is said, build two new bridges.

TOLEDO, O.—It is stated that county commissioners have condemned the Matzuier bridge over the Ottawa River and that a new structure is to be erected there. The bridge and approaches is nearly ½ mile long.

ATTICA, IND.—The contract for building substructure and superstructure of 13 iron bridges in Warren county has been let to the Attica Bridge Co. for $9,097.

KNIGHTSTOWN, IND.—Stated that a new iron bridge to cost $9,000 is to be erected over Blue River, by county commissioners.

MARION, IND.—The contract for constructing a number overhead bridges in West Marion is said to have been let to the Cincinnati, Richmond & Muncie Ry. Co., for about $75,000. H. L. Jackson will have charge of work.

PERU, IND.—C. W. Macey, County Auditor, is reported to be calling for bids for constructing seven new steel bridges and stone abutments in Miami county; also for repairing idding Bridge over Mississinewa River.

RICHMOND, IND.—It is stated that the Doran bridge will need to be strengthened at a cost of about $25,000, if it is to be crossed by street cars, as is desired by the Richmond & Northwestern Traction Co.

TERRE HAUTE, IND.—Bids are asked until June 10 for constructing complete highway bridge over Wabash River. Bridge is to have six spans 120 ft. each and one span of 75 ft. W. P. Boatman, County Comr.; F. E. Benjamin, County Auditor. (See advertising columns.)

ECORSE, MICH.—Hearings have been held before government regarding the construction of swing bridges over Ecorse Creek to replace the present structures. A. M. Sailiotte is Village Pres.

CHICAGO, ILL.—The South Park Commissioners will receive bids until May 20 for a concrete bridge with granite face work, the arch to be of 46 ft. span. It will be an ornamental structure and cost some $40,000. The granite facing will be 12 to 24 ins. thick. Competitive designs were submitted and those of P. J. Weber, 277 Dearborn St., Chicago, were selected. Wm. Black is engineer for the South Park Commissioners.

KANKAKEE, ILL.—The contract for a bridge at Court St. has been let to the Massillon Bridge Co., Massillon, O., for $10,750.

MT. CARMEL, ILL.—J. C. Kelch is stated to be in charge of the construction of the proposed bridge over the Wabash River, which may cost $100,000.

PEKIN, ILL.—County commissioners asked to erect $1,000 bridge on wagon road to Wesley City.

ROCK ISLAND, ILL.—Rock Island county commissioners have appropriated $10,000 toward the $21,000 joint county bridge to be erected near Hilldale.

DAVENPORT, IA.—Supervisors have been petitioned for bridge over Duck Creek on the road east of Bettendorf.

NICOLLET, MINN.—Nicollet and Judson are to put in a bridge at a cost of about $6,000.

HUTCHINSON, KAN.—The county will pay $2,000 toward constructing bridge near mouth of Cow Creek.

KANSAS CITY, KAN.—County surveyor has been ordered to make surveys over the Kaw River at Kansas Ave., where county is to build a $30,000 bridge.

PLATTSMOUTH, NEB.—General plans and details for the proposed wagon and foot bridge of the Plattsmouth Pontoon Bridge Co. are stated to have been approved by the U. S. War Department. E. T. Darrow, C. E., made the plans.

BROOKINGS, S. DAK.—Bids are asked until May 25 for constructing steel briage 70 ft. span in Eureka township; also 40 ft. long wood or combination bridge in Alton township and three 32-ft. long wood or combination bridges in other townships. John Alton, County Audr.

PEMBINA, N. DAK.—Reports state that bids are asked until May 19 for building the following bridges: One at Beaulieu, four at Thingvalla, two at Crystal, one at Elora, three at Park, one at town line of Crystal, one at Pembina, one at Midland and one county line bridge. Swain Thorwaldson, County Audr.

GLENDINE, MONT.—County Surveyor Cummings has made plans for a $5,000 steel combination bridge over Glendine Creek.

RED LODGE, MONT.—Bids are asked until June 2 for completing bridge over Clarke Fork River in Township 8. G. L. Finley, County Clk.

KANSAS CITY, MO.—Conferences have been held between the city and the railroad regarding the construction of a viaduct at the Lydia Ave. grade crossing. Plans for such a structure have been made by the Chicago & Alton Railway Co. and provide for an expenditure of $80,000.

HALLETTSVILLE, TEX.—The county has voted to issue $25,000 of bonds for bridges.

PUEBLO, COLO.—We are informed that nothing further than voting $120,000 of bonds, has been done toward the proposed bridge at Main St. and E. 4th St. E. W. Hathaway, Cy. Engr.

SANTA FE, NEW MEX.—County is being asked to build new bridge at Belen.

EVERETT, WASH.—Bonds 7may be issued to construct new bridge over Snohomish River to replace present structure.

SPOKANE, WASH.—Bids are asked until May 21 for constructing the south approach of Monroe St. bridge. The city engineer has estimated the cost of this work at about $26,000. L. B. Handley, Secy.

TACOMA, WASH.—The contract for constructing the Edison sewer bridge has been let to the Puget Sound Bridge & Dredging Co., for $6,492.

ALBANY, ORE.—County court has been petitioned to rebuild Sandersons Bridge. The bridge was about 640 ft. long.

PORTLAND, ORE.—The Southern Pacific Railway Co. will build a steel bridge across the Willamatte River, a few miles south of Portland. R. Koehler is Mgr.

MARYSVILLE, CAL.—Stated that the Parks Bar steel bridge over the Uba River will be repaired at a cost of $8,500.

PETROLEA, ONT.—Town will vote on by-law to raise $7,500 for building bridge over Bear Creek.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

BUILDINGS.

KENNEBUNK, ME.—Fire has destroyed various buildings. Loss, $100,000.

OAKLAND, ME.—Bids are asked until May 15 for erecting Grange Hall. E. T. Bailey has plans and specifications.

BURLINGTON, VT.—Ex Ethan Allen will be enlarged and between $300,000 and $400,000 spent on new buildings.

BOSTON, MASS.—The new school building to be erected at Boylston St. and Reservoir lane, will be of brick and stone and will cost $125,000.——The Rich, Harris & Frohman syndicate will probably erect a new theatre on site occupied by the Children's Mission to the Children of the Destitute, 277 Tremont St., upon which option has been secured.

BRIGHTON, MASS.—A block of brick and stone 3-story apartment houses, 22 x 70 ft., will be erected on lots Nos. 61 to 77 Brighton Ave., by Joseph Shoolman. Cost, $80,000. F. A. Norcross, Arch., 110 Tremont St.

LAWRENCE, MASS.—Work will probably be started on the new federal building in a few weeks.

MARBLEHEAD, MASS.—Bids will soon be asked by the Treasury Dept. for erecting new 2-story fireproof post office. Cost, $70,000.

NORTHAMPTON, MASS.—Andrew Carnegie has given $50,000 for erecting the Home Culture Club buildings. G. W. Cable is interested.

GREENWICH, CONN.—The Greenwich Hospital Assoc. will erect a $100,000 hospital. A. F. Higgins, New York, is Pres.

TORRINGTON, CONN.—Bids are asked by school building committee until May 16 for erecting new school at North Main St. Burr Lyon, Chn.

ALBION, N. Y.—It will require $100,000 to erect the government building, $60,000 of which has been appropriated.

BROOKLYN, N. Y.—$32,000 has been set aside for preparing plans for the new $1,000,000 municipal building on Joralemon St. Prof. Hamlin, Columbia, will prepare for a competition of architects.——Commissioner Woodbury plans to erect a street cleaning department building at Wallabout, Graham and Little Nassau Sts. and Kent Ave.

BUFFALO, N. Y.—John Lannen received contract for erecting a 5-story fireproof building on site of the Knowles & Gardner store, 563-5 Main St., at $75,000.

GLOVERSVILLE, N. Y.—The new $50,000 library building will be erected at East Fulton and Fremont Sts.

GREENPOINT, N. Y.—The erection of a $125,000 Y. M. C. A. building being discussed.

HEMPSTEAD, N. Y.—Bids are asked until May 18 for constructing heating and electric plant in school house, Dist. No. 1. Wm. J. Baldwin, Arch., 107 West 17th St., New York.

NEW YORK, N. Y.—Bids are asked by the department of health, 55th St. and Sixth Ave., until May 15 for moving the kitchen building and morgue on the grounds of the Willard Parker Hospital. E. J. Lederle, Ph. D., Pres.——The bill providing for a new court house has been signed by Governor Odell.——A 6-story building is to be built on the Austin Corbin plot, 38th St. and Fifth Ave.——The new De Witt Clinton High School, at 58th and 59th Sts. and 10th Ave., will be five stories, 200 x 200 ft., granite facades, brick, limestone, terra cotta, and cost $600,000.——The Municipal Art Commission has recommended an expenditure of $240,000 for mural decorations for the new Hall of Records, and that important paintings and decorations should be awarded without competition to recognized artists.——Andrew Carnegie has offered $1,000,000 for erecting two structures in West 39th and 40th Sts. for the various engineering societies. C. F. Scott is interested.——The Hebrew Technical School for Girls will probably be built on a site, 78 x 128 ft., recently purchased at Second Ave. and 15th St.——Reports state that a theatre will be built at 39th St. and Broadway for Miss Amelia Bingham.——The Jauncey Co. will erect an 8-story pressed brick and limestone office building, 40x65 ft., at Wall and Water Sts.——It is stated that the Erie Ry. Co. will erect an 11-story office building at Chambers and West Sts., a new station in Jersey City and various other improvements, at a cost of several millions.

NEW YORK, N. Y.—Bids are asked by department of public charities, East 26th St., until May 25, for putting down terrazzia floor in eight rooms at Metropolitan Hospital, Blackwell's Island. H. Folks, Comr.——Bids are asked by fire department, 157-9 East 67th St., until May 25, for erecting building for Hook and Ladder Co. No. 26, at 114th St. Thos. Sturgis, Comr.——Bids are asked by board of education until June 1 for erecting the De Witt Clinton high school at 58th and 59th Sts. and 10th Ave. C. B. J. Snyder, Supt. of Bldgs.

NEW YORK, N. Y.—Plans have been filed by A. E. Badt, Arch., for 6-story brick tenement, 44 x 88 ft., at Willett and Delancey Sts., for H. Tichter, to cost $60,000; by A. E. Badt, Arch., for 6-story brick tenement, 40 x 74 ft., at Ave. C and Ninth St., for N. Goodman, to cost $60,000; by G. F. Pelham, Arch., for 6-story brick tenement, 36 x 63 ft., at Houston and Clinton Sts., for A. Silverson, 194 Bowery, to cost $50,000; by G. F. Pelham, Arch., for 9-story brick flat, 48 x 85 ft., at 67-9 Second Ave., for J. Witner, 238 East 53d St. Owner receiving bids. Cost, $130,000; by W. H. Boylan, Arch., 60 Liberty St., for 6-story brick flat, 42 x 85 ft., at 25-7 Cornelia St., for J. Finelite, 864 Lexington Ave., to cost $65,000; by J. H. Morgan, Arch., 137 Broadway, for 8-story brick offices, 40 x 65 ft., at Wall and Water Sts., for Jauncey Co., 137 Broadway, to cost $100,000; by Copeland & Dole, Archs., 51 Exchange Place, for two 5-story brick dwellings, 93 x 100 ft., at 63d St. and Fifth Ave., for J. B. Haggin, 587 Fifth Ave., to cost $300,000; by Welch, Smith & Provot, Archs., 11 East 42d St., for two 4 and 5-story brick dwellings, 25 x 72 and 20 x 72 ft., at 21-3 51st St., for W. Hall's Sons, 39 East 42d St., to cost $90,000; by Stein, Cohen & Roth, Archs., 92 Fifth Ave., for 10-story hotel at 54th St. and Eighth Ave., for Mrs. G. L. Cloos-Long, 92 Fifth Ave., to cost $140,000. Contracts not yet let: by F. C. Zobel, Arch., 22 East 21st St., for 9-story brick offices, 25 x 28 ft., at 3 East 17th St., for the Gabay Construction Co., 114 East 23d St., to cost $120,000; by Bernstein & Bernstein, Archs., 111 Broadway, for 6-story brick tenement, 49 x 87 ft., at 442-4 Third Ave., for J. Wittner, 236 East Fifth St., to cost $45,500; by C. B. J. Snyder, Arch., 59th St. and Park Ave., for 5½-story brick school, 200 x 200 ft., at 58th and 59th Sts. and 10th Ave., to cost $600,000.

PLATTSBURG, N. Y.—Bids are asked until May 25 for remodeling drill hall at Plattsburg Barracks into a gymnasium, including plumbing, gas piping, heating, electric wiring and gymnastic apparatus. Capt. T. B. Lamoreux, Q. M.

SYRACUSE, N. Y.—Plans are being completed for new court house by A. Russell, Arch., 321 The Bastable.

SCHENECTADY, N. Y.—A syndicate will erect a 12-story hotel sanitarium on site of the Clarendon Hotel, Broadway and Hamilton St., at cost of $2,000,000.——J. H. McCaron received contract for erecting ward school on Brandywine Ave. at $72,487.

WHITE PLAINS, N. Y.—A new county building, to cost between $300,000 and $500,000, is being discussed.

GLEN GARDNER, N. J.—G. B. Post, Arch., 33 East 17th St., is preparing plans for a 3-story brick and stone home for consumptives for the State Home of Consumptives.

PRINCETON, N. J.—It is stated that a $100,000 dormitory will be erected.

BRYN MAWR, PA.—Bids are asked until May 15 for erecting a 3-story stone residence, 60 x 150 ft., for F. L. Ports. Cope & Stewardson, Archs., 320 Walnut St., Philadelphia.

CHAMBERSBURG, PA.—Plans are being prepared for the Chambersburg Trust Co.'s 5-story brick, stone and steel addition. Cost, $50,000. Address T. M. Nelson.

HARRISBURG, PA.—Bids are asked until May 21 for erecting a 1-story stone fireproof Cathedral, 120 x 170 ft., for the R. C. Church Diocese. Cost, $150,000. G. I. Lovatt, Arch., 420 Walnut St., Philadelphia.

HARRISBURG, PA.—York & Sawyer, Archs., 156 Fifth Ave., New York, are preparing plans for a fireproof brick and office building for the Mechanics Bank.

HOLMESBURG, PA.—P. H. Johnson, Arch., Fidelity Bldg., Philadelphia, is preparing plans for a 4-story brick and stone home for the indigent.

NEW HOLLAND, PA.—G. S. Flick received contract for erecting main wing to the General Hospital at $19,997. Entire cost, $49,376.

PHILADELPHIA, PA.—D. A. McClelland received contract for erecting the Equitable Warehouse Co.'s 5-story building, 40 x 184 ft., at Fifth and Willow Sts., at $60,000. C. S. Adams, Arch.

PHILADELPHIA, PA.—Plans have been completed for a new engineering building for the University of Pennsylvania. The building is to be of brick with sandstone trimmings, 300 x 160 ft., with a 50 x 40-ft. wing. The construction is to be fireproof throughout. H. W. Spangler is in charge.

PHILADELPHIA, PA.—J. H. Windrim, Arch., 1107 Walnut St., is preparing plans for the Medico-Chirurgical Hospital's 7-story brick, stone and steel fireproof building, 40 x 120 ft., at 18th and Cherry Sts.

PITTSBURG, PA.—Beezer Bros., Archs., Vilsack Bldg., writes us that J. E. and A. L. Pennock, 305 Walnut St., Philadelphia, received contract for erecting 6-story brick and terra cotta hospital, 160 x 244 ft., at $600,000, including equipment.

PITTSTON, PA.—New armory being discussed. Col. C. B. Dougherty is interested.

SCRANTON, PA.—Little & O'Connor, Archs., 31 West 31st St., New York, are preparing plans for the 3-story brick and stone manual training school.

SCRANTON, PA.—The Second Presbyterian Church may move building to afford room for an addition.——The Y. W. C. A. is making efforts to secure funds for erecting new home.

UNIONTOWN, PA.—The contract has been let for erecting H. Beeson's 3-story business block and theatre on West Main St., at $45,000.

BALTIMORE, MD.—Bids are asked until May 26 for erecting 1-story addition to United States Court House.

BROOKLAND, D. C.—H. P. Cummings & Co., 178 Devonshire St., Boston, Mass., received contract for erecting 3-story brick and steel fireproof school building, 60 x 120 ft., for the Catholic Missionary Union of the U. S. at $60,000.

WASHINGTON, D. C.—F. N. Carver, 1416 F St., received contract for erecting 8-story brick, stone and steel fireproof apartment house at 1315-19 Rhode Island Ave., for L. Woodbury. Steam heat and electric elevators to be installed.——P. J. Pelz, Arch., 25 Corcoran Bldg., is receiving bids for a 1-story stone church at North Capitol and R Sts. Cost, $50,000.——T. F. Schneider, Arch., Bond Bldg., is preparing plans for a 4-story brick and stone fireproof residence at 16th and Scott Sts., for Col. O. G. Staples. Cost, $70,000.——Competitive plans will soon be asked for the 3-story granite, marble and steel fireproof office building, 275 x 325 ft., for the House of Representatives. Cost, $2,356,000.——The American Security & Trust Co. will soon have plans prepared for a 1-story brick and steel fireproof bank building at 15 Pennsylvania Ave. Cost, $150,000. Address C. J. Bell, 1405 G St.

FORT MYER, VA.—Bids are asked until May 29 for constructing gymnasium. Capt. W. F. Clark, Q.M.

WEST POINT, VA.—Reports state that the express office, post office, Pemberton House and a number of stores have been burned, with loss of $125,000.

WHEELING, W. VA.—J. E. Greiner, Engr. Baltimore & Ohio Ry. Co., Baltimore, Md., is preparing plans for a 2-story brick and stone station. Cost, $65,000.

ELIZABETHTOWN, N. C.—Bids are asked until May 19 for constructing new jail.

CHARLESTON, S. C.—Bids are asked until May 15 for constructing, heating and electric wiring lavatory at Fort Barrancas, Fla. Also plumbing officers' quarters and barracks building at Fort McRee, Fla. W. E. Cole, Q. M.

ABBEVILLE, GA.—F. P. Milburn, Arch., writes us that the following bids were received May 4 for erecting new court house: Miles & Bradt, Atlanta, $52,000; Savannah Construction Co., Savannah, $49,660, and McKenzie & Son, Augusta, $49,380. Contract awarded.

ATLANTA, GA.—P. T. Marye, Arch., Washington, D. C., will prepare plans for the Atlanta Terminal Co.'s new main depot. H. M. Steele, Ch. Engr. Cost, $1,500,000 to $1,600,000.

AUGUSTA, GA.—James Knox Taylor, Supervis. Arch., Treas. Dept., Washington, D. C., is preparing plans for a 2-story brick, stone and steel fireproof addition to post office. Cost, $125,000.

MACON, GA.—Bids will soon be asked for erecting the Masonic Home. Cost, $50,000.

MOBILE, ALA.—Bids are asked until May 25 for constructing houses at Locks 1, 2, 3, Warrior and Tombigbee rivers. Capt. W. E. Craighill, Corps of Engrs.

JACKSON, MISS.—A 7-story office building will be erected by the Jones-Kennington Co. on site of St. Andrew's Episcopal Church, at cost of $125,000.

MERIDIAN, MISS.—The Meridian Male College will be rebuilt at cost of between $75,000 and $100,000.

MEMPHIS, TENN.—The Goodwyn Institute building will soon be erected. It will not be less than 12 stories high. S. P. Read, J. R. Pepper and J. M. Goodbar, Comrs.

NASHVILLE, TENN.—The erection of a 12-story office building on the property bounded by College, Union and Market Sts., is contemplated. Cost, $750,000. Maj. Stahlman is interested.

FORT THOMAS, KY.—Bids are asked until May 18 for remodelling drill hall. Maj. W. H. Miller, Q. M., U. S. A., Chicago, Ill.

PADUCAH, KY.—Bids are asked by James Knox Taylor, Arch., Washington, D. C., until June 9 for furnishing steam heating and ventilating apparatus for the post office. Also until June 11 for constructing the extension to post office, including electric wiring and conduits.

CELINA, O.—Bids are asked by board of education until May 25 for complete steam heating apparatus, boiler room, etc., for the West Side school building. J. E. Hattery, Clk.

COLUMBUS, O.—Plans have been approved for the Franklin county memorial building.

CLEVELAND, O.—The Shatzinger-Dickie Realty Co. will erect a 4-story apartment house, 70 x 250 ft., at Madison and Dellenbaugh Aves., at cost of $140,000. J. R. Sprankle is Pres.

DAYTON, O.—Bids are asked until June 1 for erecting a brick barrack building at the home N. H. D. V. S. A. J. Clark, Treas. Peters, Burns & Pretzinger, Archs.——The Requarth Co. received contract for erecting the new N. B. Publishing House. Cost will be more than $100,000. Dr. Funk is interested.

MILLERSBURG, O.—Bids are asked until May 18 for constructing a hospital building. M. C. Mackey, Auditor.

ANDERSON, IND.—J. R. Page is receiving bids for erecting auditorium, to be completed by Sept. 10.

FAIRFIELD, IND.—Krutsch & Brenner, Archs., 93 Baldwin Bldg., Indianapolis, are preparing plans for a brick and stone school building. J. W. Jessup is Trustee.

FRANKFORT, IND.—Bids will soon be asked by the Frankfort Theatre Co. for erecting a $30,000 playhouse. J. C. Blum, Dir.

INDIANAPOLIS, IND.—The Northern Indiana M. E. conference has decided to erect the proposed Methodist hospital here. About $76,000 is raised, but work will not start until subscriptions amounting to $100,000 are received; $200,000 will be required.

SOUTH BEND, IND.—The managers of the Orphans' Home are preparing to erect a new building.

WARSAW, IND.—A movement is on foot for the erection of a county hospital. Address County Comrs.

WINSLOW, IND.—W. L. Davis & Co. will erect a 4-story store building.

DETROIT, MICH.—L. W. Tyler will erect an apartment house at Jefferson and McDougall Aves., at cost of $135,000.

ST. IGNACE, MICH.—Bids are asked until May 20 for erecting church for St. Ignatius Catholic Church. H. J. Rill, Arch., 54 Buhl Block, Detroit.

CHICAGO, ILL.—The new Railway Exchange building, Michigan Ave. and Jackson Boulevard, will be 171 x 171 ft. and 16 stories high; 12 elevators will be installed.——E. A. Mayo, Arch., 140 Dearborn St., is preparing plans for remodeling the Campbell Investment Co.'s building at 30-2 Lake St. Two electric elevators will be installed. Cost, $50,000.——The Fulton St. Wholesale Market Co. will rebuild structure which was destroyed by fire, at cost of $50,000. It will be 80 x 252 ft.——Wells Bros.' Co. received contract for erecting S. Brooks' 5-story building, 100 x 100 ft., at Clark and Van Buren Sts., at $230,000; also for erecting the Chicago Edison Co.'s 8-story building, 55 x 85 ft., at 80-2 Market St., at $220,000.——John Biggio will erect a 3-story flat at Western and Chicago Aves., at cost of $55,000. He will also erect several smaller structures.——S. S. and J. J. Schulbert will erect a new theatre in Clark St., to be known as the Marquette, on the site of the Kaiserhof and open board of trade building.——The Dearborn Theatre will be renovated at a cost of $75,000, and be known as the New Garrick.

WAUKEGAN, ILL.—The Chicago Telephone Co. has plans for a 2-story pressed brick and stone telephone exchange. Cost, $50,000.

HYDE PARK, ILL.—Clark & Trainer will erect a 3-story apartment house, 72 x 100 ft., in Greenwood Ave. and in Lake Ave. at cost of $75,000 each.

DANVILLE, ILL.—Bids are asked until June 2 for constructing the Danville Public Library building. Liese & Ludwick, Archs., 128 North Vermillion St.

MACOMB, ILL.—The trustees of the new state normal school here have asked the legislature for $168,000 to complete the building.

PEORIA, ILL.—The Brotherhood of Locomotive Firemen contemplate erecting a 6-story office building at cost of between $100,000 and $150,000.

SPRINGFIELD, ILL.—Bids are asked by James Knox Taylor, Arch., Washington, D. C., until June 3 for constructing court house, post office, etc., including heating, plumbing, electric wiring and conduits.

MILWAUKEE, WIS.—The University Club will spend $50,000 for new club house. R. N. McMynn, Bd. of Dirs.

CLINTON, IA.—Bids are asked until May 20 for constructing a library building.

SIOUX CITY, IA.—Bishop Garrigan will erect a $100,000 Catholic orphanage.

THOMPSON, IA.—A company is being formed to erect a hotel.

DES MOINES, IA.—Rowson & Son, Iowa City, submitted the lowest bid for completing the library building, at $60,000.

ST. PAUL, MINN.—Bids are asked until June 10 for remodeling the old post office as a custom house. Cost, $65,000.

FORT SCOTT, KAN.—J. W. Kaiser writes us that the Woodmen of the World lodge will erect a brick temple, 50 x 120 ft., if they decide to build. Plans have not been prepared.

HASTING, NEB.—Reports state that a $125,000 government building will be erected.

SIOUX FALLS, S. D.—C. H. Hickman, Civil Engr., has stated that the Great Northern Ry. Co.'s station will be of brick, 32 x 120, and the freight depot will also be of brick, 40 x 120 ft.

BILLINGS, MONT.—An election will be held May 23 to decide upon erecting new court house and jail.

FORT KEOGH, MONT.—Bids are asked until May 19 for installing interior plumbing.

POPLAR, MONT.—Bids are asked by board of education until May 28 for constructing 2-story brick school building, including plumbing and furnace plant. A. O. Davis, Chn.

HAMBURG, ARK.—Bids are asked until June 2 for constructing court house. F. W. Gibb, Arch., Little Rock.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

DECATUR, MO.—A $75,000 Y. M. C. A. building is contemplated.

ST. LOUIS, MO.—A. Alexander, Secy. of Indiana Commission, State House, Indianapolis, Ind., will soon receive bids for erecting Indiana building. Cost, $50,000.

KANSAS CITY, MO.—A permit has been granted to the John Taylor Dry Goods Co. for erecting its 4-story brick and stone building, 90 x 110 ft., at 1019-25 Baltimore Ave. Cost, $60,000.

PERRYVILLE, MO.—New court house being discussed.

DALLAS, TEX.—A company with capital of $80,000 may be formed to erect an auditorium.

AUSTIN, TEX.—The general appropriation bill which has passed the legislature carried appropriations aggregating $1,000,000 for the erection of new public buildings. The principal items are: repairs and new building at North Texas Normal College at Denton, $54,000; improvements at Industrial School for Girls at Denton, $72,237; new buildings and improvements at Agricultural and Mechanical College at Bryan, $102,000; improvements at Prairie View Normal, $34,000; for sugar mill at Harlem convict farm, state penitentiary, $35,625; new buildings, repairs, etc., at Southwestern Insane Asylum at San Antonio, about $135,000; at North Texas Lunatic Asylum at Terrell, $31,000; at State University, $250,000, for repairs, etc.

WACO, TEX.—The Sisters of Dallas will erect hospital at cost of $65,000, to be known as the Providence Sanitarium.

PORT TOWNSEND, WASH.—The following awards have been made for constructing Non-Com. Officers' Quarters, Single Barrack, and two sets Lieuts.' Double Quarters, at Fort Worden: Andrew Stegerwald, construction $38,100, wiring $1,350; R. Dalziel, Jr., plumbing, $5,650, and Harris & Alger, heating, $5,436.

SEATTLE, WASH.—D. J. Grawman is negotiating for site for a vaudeville theatre building. Cost, $250,000.——A 4-story stone building will supersede the Wayside Mission Hospital. Cost, including equipment, $80,000. Dr. A. De Sota is interested.

VANCOUVER, WASH.—Bids are asked until June 1 for constructing a gymnasium and post exchange building at Vancouver Barracks. F. H. Hathaway, C. Q. M.

VANCOUVER, WASH.—Wood, Donn & Derning, Archs., 808 17th St., Washington, D. C., are preparing plans for 2½-story brick and stone post exchange and gymnasium. Cost, $50,000. Also for similiar buildings at San Francisco, Cal., and Denver, Colo.

OKLAHOMA CITY, OKLA.—Union depot proposed. Kansas City capitalists, headed by W. S. McCaule, are behind the plan.

BERKELEY, CAL.—J. G. Howard, Supervis. Arch. of University of California, will prepare plans for proposed $400,000 Carnegie Library.

LOS ANGELES, CAL.—Burnham & Bleisner, Archs., will prepare plans for the Polytechnic high school. Cost, $200,000.——J. C. Austin, Arch., Douglas Bldg., will prepare plans for the Westlake school. Cost, $57,000.——The Llewellyn Iron Works received contract for iron and steel work on H. W. Hellman's 8-story building at Fourth and Spring Sts., at $140,000.——Plans have been completed for a semi-fireproof apartment house on Fifth St. by F. E. Engstrum. An oil-burning boiler, heating and ventilating fans, electric motor and elevator machinery will be installed.——J. L. Lankershire's hotel at Seventh and Broadway, will require machinery for furnishing steam heat, electric light, elevator power, hot water and ice plants. Four hydraulic and one service elevator will be installed. Cost, $300,000.——Reports state that T. F. Curtis, Minneapolis, Minn., will erect a hotel at Fourth and Fifth Sts. Cost, $250,000.

SAN FRANCISCO, CAL.—Bids are asked until June 4 for constructing bachelor officers' quarters at Presidio of San Francisco. C. P. Miller, Deputy Q. M. Gen.

SAN FRANCISCO, CAL.—A Merchants' Exchange building will be erected. D. Hearfield will supply machinery at $135,000.

SAN FRANCISCO, CAL.—The apartment house to be built on the southeast corner of Clay and Larkin Sts. for Dr. Dudley Tait will cost $50,000.——M. Fleisher will erect a 6-story apartment house, 82 x 137 ft., on Bush St., at cost of $80,000.——D. S. Dora will erect a 7-story brick and stone semi-fireproof building, 55 x 137 ft., on Turk St., at cost of $100,000. Wm. Moser & E. G. Balles, Archs.——Hemenway & Miller, Archs., Hearst Bldg., have completed plans for the Italian Swiss Colony's 3-story brick fireproof building at Greenwich and Filbert Sts. Wine-storing capacity, 2,000,000 gallons. Cost, $125,000.——J. M. Masten will erect a 7-story building, 25 x 77 ft., at Third St. and Sherwood Place, at cost of $50,000.

SALT LAKE CITY, UTAH.—It is stated that Senator Clarke, Montana, and Senator Kearns, Utah, have purchased a site at West Temple and First South Sts., and will probably erect a hotel.——$300,000 more may be appropriated for rebuilding Fort Douglas.

LEWISTON, IDAHO.—$200,000 will be spent on public buildings and public works.——J. H. Kent, Helena, Mont., has prepared plans for a 3-story $50,000 hotel. Chas. Wright is interested.

SHOSHONE, IDAHO.—Bids are asked by board of commissioners until May 20 for erecting court house. A. I. McMahon is Clk.

VALETTE, P. E. I.—Bids are asked until May 15 for erecting a brick Presbyterian church. W. F. Robertson, Secy. Bldg. Com., J. L. Wilson & Son, Archs., Chatham, Ont.

NELSON, B. C.—A $45,000 court house will be erected.

BONDS.—Bids are asked by A. H. Northway, Corunna, Mich., until June 1, for purchasing $75,000 court house bonds.——Billings, Mont., will hold an election to decide upon issuing $75,000 bonds for court house and jail.——A bond issue of $150,000 for an auditorium is being discussed by Minneapolis, Minn.

WATER SUPPLY AND IRRIGATION.

GROVELAND, MASS.—Town votes on new works.

MANSFIELD, MASS.—We are informed that it is expected that John T. Langford, Boston, Mass., will make the proposed extensions for the Mansfield Water Supply District, and will furnish material and do the excavating. D. S. Spaulding, Comr.

NORTH ATTLEBORO, MASS.—$4,000 has been appropriated for extending main in Arnold St.

RUSSELL, MASS.—Town has voted not to accept legislative act giving it right to have public works.

SHELBURNE FALLS, MASS.—Committee will make investigations for gravity water supply. Geo. W. Jenks is Ch. Engr. Fire District.

SPENCER, MASS.—Metering of entire town, at cost of $9,000, will be recommended. A. G. Pease is Water Comr.

SPRINGFIELD, MASS.—Reports will probably be made about May 15 by Samuel M. Gray and Geo. W. Fuller, consulting engineers, on the conditions of the local water supply. E. E. Stone is Mayor.

BRISTOL, R. I.—Contract for 75 ft. square reservoir of Bristol Water Co. has been let to the Fred. T. Ley & Co., Springfield, Mass.

HARTFORD, CONN.—The 20-in. cement pipe in Farmington Ave. is to be replaced this year. New pipes will also be laid in Smith St. F. D. Berry is Secy. Water Comrs.

NEW HAVEN, CONN.—Bids are asked until May 23 for constructing a sand filtration plant for the Whitneyville supply of the New Haven Water Co. A. B. Hill, 82 Church St., Engr.; David Doggett, Secy. (See advertising columns).

STAMFORD, CONN.—Local real estate owners favor city works.

BINGHAMTON, N. Y.—About one-half mile of mains will be laid this year at cost of $4,000.

CHARLOTTE, N. Y.—Village will vote on sale of water and electric light plant to Rochester & Lake Ontario Water Co., for $35,000 and $15,000 respectively.

COHOES, N. Y.—Investigation for water supply from the Quaker Settlement has been made. Cost of pipe line from there to city would be $200,000. A. T. Kniffen is Supt. W.-W.

HUDSON, N. Y.—We are informed that Mayor Harvey has disapproved of the new water bill passed by the State legislature. A new bill will be necessary next year. H. K. Bishop, Supt. Pub. Wks.

NAPANOCH, N. Y.—Private works to be built.

NORTH HEMPSTEAD, N. Y.—Bids are asked until May 18 for furnishing water supply for fire purposes in the Great Neck Water Supply District and the Port Washington Water Supply District. Monroe S. Wood, Town Clk., Roslyn, N. Y. (See advertising columns).

NORTH TONAWANDA, N. Y.—It is stated that bids are to be called at once for constructing 24-in. water main over Niagara River, between the mainland and Tonawanda Island. A. P. Smith is Cy. Engr.

BORDENTOWN, N. J.—City contemplates purchasing present private plant and making extensive improvements in it. D. R. Brown is Chn. Comn.

JERSEY CITY, N. J.—M. T. Connelly at $69,074 was low bidder for constructing West Side water main.

MANASQUAN, N. J.—Plans and specifications are stated to have been adopted calling for the construction of a water system to cost not more than $35,000.

NEWARK, N. J.—The Board of Trade is urging the establishment of a high-pressure water supply in the center of the city for fire protection purposes. Morris R. Sherrerd is Engr., Water Dept.

SUMMIT, N. J.—The municipal ownership committee has reported in favor of the city acquiring control of the water and electric light plants of the Essex-Union Water & Light Co. Geo. W. Baldwin is Mayor.

HOMESTEAD, PA.—Local water supply is reported to be entirely inadequate, but nothing will probably be done until a $164,000 bond issue voted last June is disposed of.

LANCASTER, PA.—Erwin Lyndall, John S. Kyle and others of Philadelphia, are to apply for charters for their companies to supply water in this county. The source of supply is to be from Conestoga and Octorara Creeks.

LANCASTER, PA.—Bids are asked until June 8 for 12,000,000-gallon pumping engine, steel stand pipe 25 ft. in diameter and 110 ft. high, 1,312 tons 16 to 30-in. cast-iron pipe and special castings, 5,100 ft. 22 to 32-in. steel spiral riveted pipe, trenching, back filling, stop valves, etc. Samuel M. Gray, Providence, R. I., Cons. Engr.; Chester W. Cummings, Chn. Water Com. (See advertising columns).

MERCERSBURG, PA.—The Mercersburg Water Co., A. R. McCarthy, contemplate erecting new works in this place.

MT. CARMEL, PA.—It is stated that the systems of the Mt. Carmel Water Co. and the Bear Gap Water Co. are to be connected by an emergency line made up of about 6,000 ft. of 6-in. pipe.

MT. PENN, PA.—New supply is discussed and estimates for municipal plant have been obtained. A company—Mt. Penn Water Co.—will also be incorporated with $10,000 capital by C. M. Kline and others.

PHILLIPSBURG, PA.—We are informed that decision will be made on proposed improvement of the waterworks May 18. N. B. Ringeling is Des. Engr.; John W. Daural, Mayor.

READING, PA.—Contracts for cast-iron pipe and specials have been let to the Reading Foundry Co. for $21,410

WARREN, PA.—The local water company is stated to have offered to sell its works to the borough for $325,000.

WASHINGTON, D. C.—Arthur P. Davis, Ch. Engr. Reclamation Service, and George Y. Wisner, and John H. Quinton, Cons. Engr., are inspecting plans and specifications for irrigation works to be built under the Reclamation law of June 17, 1902, on Salt River, Arizona, Truckee River, Nevada, and Gunnison River, Colorado. These projects have been approved recently by the Secretary of the Interior for construction.

WASHINGTON, D. C.—Bids are asked by the district commissioners until May 23 for furnishing 20-in cast-iron water pipe. (See advertising columns).

WASHINGTON, D. C.—368,000 acres of land has temporarily been withdrawn from entry for proposed irrigation enterprises in Buffalo and Land Office districts of Wyoming.

LYNCHBURG, VA.—Wm. V. Wilson, Jr., Chn. Water Com., writes us that the council has approved construction of gravity system at cost of $700,000, and matter will be submitted to popular vote at an early date. Surveys are being made under direction of James H. Fuertes, Cons. Engr., New York.

NORTH BIRMINGHAM, ALA.—City has voted for works; source of supply is large spring.

YAZOO CITY, MISS.—Site for water-works plant has been purchased and 2,000,000-gallon reservoir will be placed on Peak Tenerif. E. Luke is Mayor.

NASHVILLE, TENN.—We are informed that no steps have been taken as yet for moving city water supply intake, and it is very doubtful if anything is done about the matter. Geo. W. Stainbock.

COLUMBUS, O.—Contract for furnishing 13,000 ft. of pipe for water-works purposes has been let to the Columbus Supply Co.

COLUMBIA, S. C.—Plans and estimates are being made for increase of city water supply.

SPRINGFIELD, O.—Chief Engineer Powell has recommended that water-works trustees install 10,000,000-gallon pumping engine and 120-HP. boiler.

TOLEDO, O.—The Pure Water Advisory Board has made a report to the water-works trustees in which they decide the best source for water supply is Lake Erie, and slow sand purification plant is suggested for purifying the supply.

OAKLAND CITY, IND.—Reports state that $12,000 works are to be built here, and will ultimately come into possession of city.

HOUGHTON, MICH.—F. W. Cappelin, Cons. Engr., Minneapolis, Minn., is to make plans and specifications for improvements to water-works.

CARLINVILLE, ILL.—It is proposed to construct an 8,000,000-gallon settling basin, low-lift pumping plant and new pipe line to the city at a total cost of $40,000. Plans and specifications have been prepared by J. W. Alvord, Cons. Engr., Hartford Bldg., Chicago, Ill., who has the matter in charge.

CHICAGO, ILL.—Two sites for pumping stations have been purchased by the city—one on 95th St. and Erie Ave., and the other on Stony Island Ave.

PAXTON, ILL.—Contract for laying water mains on North Market, State, Pine and Spruce Sts., has been let to B. A. Pearson, Bloomington, Ill., for $3,731.

FOND DU LAC, WIS.—Local water company has offered to rent its plant to city for $30,000 a year for 20 years, at the end of which time it would become the property of the city.

MILWAUKEE, WIS.—Bids are asked until May 19 for furnishing 600 tons 6-in., 300 tons 12-in. and 100 tons 16-in. cast-iron water pipe. Charles Poetsch, Comr. Pub. Wks.

WEST ALLIS, WIS.—J. B. Davidson, C. E., is to make plans for works; source of supply will be an artesian well and the cost is estimated at about $30,000.

BURLINGTON, IA.—Bids are asked until May 18 for a compound condensing crank and flywheel pumping engine of 6,000,000 gallons capacity. Frank Lawler, Supt. Citizens Water Co.

KEOKUK, IA.—Chas. J. Smith has been appointed special master to conduct the public sale of the Keokuk water-works, which has been ordered by the federal court.

OTTUMWA, IA.—Press reports state that the courts have ordered that the Ottumwa Water-Works be sold by auction from the county court house. Chas. J. Smith has been appointed special master to conduct the sale.

SIOUX CITY, IA.—J. M. Lewis, Cy. Engr., writes us that nothing has been done toward calling for bids for water-works extensions.

ST. PAUL, MINN.—Water board has voted to lay new mains in Dooley Ave., from Raymond to Cleveland; in Rice St., from Maryland to Carhon; in Oxford, from Front to Stinson, and in Stinson, from Oxford to Chatsworth.

TRUMAN, MINN.—The contract for water-works has been let to J. L. White for $6,000.

GARDEN CITY, KAN.—H. C. Diesen, County Surv., has been engaged on surveys for the irrigation of some 10,000 acres in Finney county.

OMAHA, NEB.—John W. Alvord, Cons. Engr., of Chicago, Ill., has been appointed by the city as its representative on the board of appraisal, which is to make a valuation of the water-works system now owned by a company, with a view to its purchase by the city.

GARY, S. DAK.—Town votes for works.

MARION, S. DAK.—P. H. Drexler, Pres. Trus., writes us that an election may be held in the near future to vote on bonding the town for some system of fire protection. Water-works are favored by the majority. Population is 500.

SALEM, S. DAK.—The contract for placing two 8 x 36 compressed air tanks, two 15-HP. Otto gasolene engines, two deep well pumps and a triple force pump has been let to the National Construction Co., South Bend, Ind., for $5,500.

SIOUX FALLS, S. DAK.—City will probably extend present water company's franchise for ten years, although a minority report favors the construction of a municipal plant.

CANDO, N. DAK.—Bids are asked until May 25 for constructing works, consisting of wooden tank on steel tower, a deep well pump, and a system of distributing mains with appurtenances. Des Moines Bridge & Iron Works, Des Moines, Ia., Engrs.; H. D. Skinner, Cy. Audr.

GRAND FORKS, N. DAK.—East Grand Forks has voted to hold a special election to vote on a $13,000 water-works system.

SARATOGA, WYO.—R. W. Dyer, Town Clk., writes us that they have not received the money for their bonds as yet, and nothing will be done toward letting contracts for works until this is done. Population is 700.

BOZEMONT, MONT.—Bids are asked until June 8 for constructing storage reservoir dam at Mystic Lake. S. Fortier, Cons Engr., F. W. Bull, Secy., Bozeman Creek Reservoir Co. (See advertising columns).

GREAT FALLS, MONT.—According to a report of Edwin L. Chalcraft, Inspector of Indian Affairs, Washington, D. C., an extensive irrigation system is to be constructed this summer upon the lands of the Fort Shaw Indian school reservation and work on the survey for this system will begin at once. The main ditch will be about six miles long.

HAVRE, MONT.—Surveys are to be commenced soon on the plans for the St. Marys irrigation canal and reservoir in the northern part of the state. By these it is proposed to reclaim about 300,000 acres of land. The surveys are in charge of Cyrus C. Babb, U. S. Geological Survey.

MISSOULA, MONT.—The contract for constructing the water-works and sewer system at Fort Missoula has been let to Allan Black & Co., St. Paul, Minn., at $9,988 for the works and $6,142 for the sewers.

CAMERON, MO.—Plans and specifications for $80,000 works have been completed and necessary bond issue will be voted on soon.

CENTRALIA, MO.—Works talked of.

KANSAS CITY, MO.—The board of public works has let a contract to the Allis-Chalmers Co., Chicago, Ill., at $106,000, for installing a two-section 16,000,000-gallon horizontal triple-expansion pumping engine at the Turkey Creek station. The contract for a 25,000,000-gallon pumping engine at Quindaro station was let to the Barr Pumping Engine Co., Philadelphia, Pa., for $85,000. For the 36-in. cast-iron pipe flow line from Quindaro station

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

to Kaw Point, E. W. Cook & Son, at $178,770, time limit 120 days, was the low bidder. Cotter-McDonnell Co., at $178,800, time limit 90 days, was the next lowest.

MARSHALL, MO.—We are informed that the city will buy local works, $40,000 of bonds having been issued for that purpose. A. R. James, Cy. Clk.

ST. LOUIS, MO.—In his annual report Edw. Flad, Water Comr., states that $1,179,000 will be required to replace the cast-iron water pipes which have been damaged by electrolysis.

GRANDVIEW, TEX.—City has let a contract to a plumbing and machine company of Hillsboro, Tex., for erecting a 100-ft. stand-pipe and installing 8-in. mains, at a cost of $10,000.

LULING, TEX.—The Luling Water-Works Co. is stated to be preparing to enlarge its plant.

MEXIA, TEX.—Mayor W. E. Doyle has vetoed council resolution granting $13,500 water-works bonds to any persons who would erect works capable of furnishing 1,000,000 gallons of water daily.

WACO, TEX.—Steps are to be taken by the water commissioners regarding a water supply.

ANADARKO, OKLA.—This town and Lawton are stated to have requested the Secretary of Interior to send a special agent to prepare specifications and direct the letting of contracts at once for the construction of water-works systems.

TEMPLE, OKLA.—Work is to be at once begun on private works of which Richard Rudesill is to be manager. The water is to be pumped into a stand-pipe.

CHICKASHA, IND. T.—Works to be voted on.

DENVER, COLO.—Contracts have been awarded to O'Brian & Rhodes, Engrs., Tabor Bldg., for concrete intakes to water-works, Trinidad, Colo., and for taking up and relaying 50,000 ft. of 16-in. water main. Ludlow valves are specified for intakes.

DENVER, COLO.—Maps and statements have been filed in the State Engineer's office for two reservoirs in Fountain Valley, of a capacity of 261,000,000 cu. ft. and 436,000,000 cu. ft. Both reservoirs are to be filled from Fountain Creek. Clifton George, Fountain, Colo., is one of the claimants. Filings were also made for Beaver Creek Reservoir No. 1, in the San Luis Valley, capacity 114,998,400 cu. ft., and the Cascade ditch, owned by the Las Animas Canal Reservoir, Water, Power & Investment Co., capacity 500 cu. ft.

BALLARD, WASH.—The municipal plant is to be leased to the Kilbourne-Clark Co., who agree to maintain a pumping station in connection with the light plant, of a capacity of 350,000 gallons daily.

ELLENSBURG, WASH.—A. R. Black has submitted a proposition to build a high-line canal to water Kittitas Valley.

ELMA, WASH.—The contract for sinking an artesian well has been let to L. S. Greene, Seattle, Wash.

TACOMA, WASH.—One bid was received for drilling two air lift test wells and furnishing power equipment. This was from the Laidlaw-Dunn-Gordon Co., Cincinnati, O., and was for $15,800. It was rejected as being to high and new bids will probably be called.

CORVALLIS, ORE.—City proposes to grant a franchise for works for either a direct or gravity water system.

INDEPENDENCE, ORE.—Independence & Monmouth Water & Electric Light Co. has offered to furnish city with water for a five-year term.

IONE, ORE.—Works proposed.

ALTURAS, CAL.—We are informed that J. A. Yates, contractor, has proposed to put in private water-works in this place, but has not yet come to terms with the trustees. The source of the supply would be from wells; population, about 900.

ANTIOCH, CAL.—J. Rio Baker, Pres. Bd. Trus., writes us that $30,000 of bonds for water-works and sewers have been voted. It will be two or three months, however, before bonds are sold or anything done toward letting contracts.

CHICO, CAL.—It is stated that Wm. Grant, Mgr. Balfour, Guthrie & Co.'s county interests, propose to build an irrigating ditch several miles long, with a capacity sufficient to irrigate 1,000 acres.

GILROY, CAL.—Irrigation plant is to be established on Sargent Ranch. A pumping station will be installed on Pajaro River and a number of artesian wells made available. C. B. Lewis, C. E., has been making the surveys.

LOS ANGELES, CAL.—A consolidated company, composed of the Artesian Water Co., the Santa Monica Water Co. and private parties have been formed to furnish irrigation water to the Ballona country and domestic water to the city of Santa Monica. With this end in view some 30,000 acres of land and water properties has been purchased.

OAKLAND, CAL.—The Contra Costa Water Co. has increased its indebtedness from $4,600,000 to $5,600,000, in order to secure additional funds for improvements.

REDWOOD CITY, CAL.—Trustees are said to be preparing to increase water and sewer systems.

SAN DIEGO, CAL.—Bids are asked until June 1 for constructing water distributing system and sewer and rain-water systems at Fort Rosecrans. Maj. R. H. Rolfe, Constructing Q. M.

SAN FRANCISCO, CAL.—The Spring Valley Water Co. has been incorporated with $28,000,000 of capital stock. This company, according to local press reports, is the outgrowth of the old Spring Valley Water-Works, and was formed for the purpose of financing improvements involving the expenditure of $14,000,000. William Alvord, Pres. Bank of California, is a director.

BISBEE, ARIZ.—We are informed that bids will not be opened for 60 days for proposed water system for Bisbee West Mining Copper Co. The company already has a 150-HP. 16 x 18 cylinder pump. A. S. Robbins, 245 Wilcno Block, Los Angeles, Cal., is official in charge.

PRESCOTT, ARIZ.—Bids are asked until May 16 for constructing a reservoir. E. B. Modey, Cy. Clk.

LEWISTON, IDAHO.—Contract for stone reservoir has been let to Huber & Frazier for $5,000.

MARIEVILLE, QUE.—Bids are asked until May 20 for construction of reservoir and pumping station, with gasoline engine. Dupont & Leduc, 35 St. James St., Montreal, are Des. Engrs.; G. Bombardier, Secy.

MARKDALE, ONT.—Bids are asked for water-works for the Grey County House of Refuge, made up as follows: 16-ft. windmill on 60-ft. steel tower, pump of 1,500 gallons per hour capacity, 30,000-gallon wooden tank on 65-ft. steel tower, 1,240 ft. 6-in. and 165 ft. 4-in. pipe. R. McDowall, County Engr.; Chas. Gordon, Chn. Com.

BONDS.—Summerville, Ga., votes to issue $25,000 water-works and sewer bonds.——Minneapolis, Minn., through Joshua Rogers, Cy. Controller, is asking bids until May 22, for $815,000 of bonds, $100,000 of which are for water-works improvements.——Cameron, Mo., will vote on $80,000 bond issue for works.——Chickasha, Ind. T., votes May 23 on a $135,000 bond issue—the largest part of which is for water-works.——Redlands, Cal., is considering a $25,000 bond issue for better fire protection purposes.——San Diego, Cal., through Geo. D. Goldman, Cy. Clk., will receive bids until June 22 for $381,000 bonds, $199,000 of which are for works.

NEW COMPANIES.—Kilraven Co., Helena, Mont.; $200,000; to construct irrigation works in Teton county.——Tonopah Water Co., San Francisco, Cal.; E. G. Wheeler, D. S. Watson, Albert Sutton.——South Los Angeles Water Co., Los Angeles; $250,000; E. B. Baker, A. L. Burbank, John R. Haynes.——Ervin Lyndall, John I. Kyle, H. E. Fauser and others of Philadelphia have asked for charters for the Colerain Water Co., the Providence Water Co., and the Conestoga Water Co., all to operate in Lancaster county.——Kalorama Water Co., Los Angeles, Cal.; $30,000; Chas. S. Mann, Frank A. Nance, T. J. Manger.——Paden Valley Co., Pittsburg, Pa.; $200,000; to erect water-works, to procure gas and electricity and supply customers with water, heat, light and power; Chas. L. Woolridge and Geo. R. Wallace, Pittsburg, Pa.; John P. Gangwisch, Grafton, Pa.

NEW COMPANIES.—San Pablo & Oakland Artesian Water Co., Oakland, Cal.; $200,000; W. B. Hellings, A. W. Craig, M. J. Feely.——The following water companies have been incorporated at Harrisburg, Pa., to operate in Indiana county, each has capital of $5,000: Cloverdale Water Co., Grant Township; Woodward Water Co., Cherry Hill Township; Highland Water Co., Grant Township; Commercial Water Co., Green Township; Cherry Hill Water Co., Cherry Hill Township.——International Water Co., Los Angeles, Cal.; $1,000,000; main office at El Paso, Tex., where artesian wells are being sunk. Wm. E. Race in charge.——Mountain Spring Development Co., Los Angeles, Cal.; $75,000; J. H. Beamer, W. E. Martin.

SEWERAGE.

FAIRHAVEN, VT.—Bids are asked at this place until May 22 for constructing a sewer system and not at Fairhaven, Conn., as appeared in issue of May 7. F. M. Allen, Secy. Sewer Com.

BROCKTON, MASS.—$10,000 will be spent on completing the Salisbury river system to the lake.

CHELSEA, MASS.—Sewers discussed.

EASTHAMPTON, MASS.—The engineer's estimate for a sewer along the pond line is $40,000. A 20-24-in. pipe would be used.

FALL RIVER, MASS.—$35,400 has been appropriated for sewers.

METHUEN, MASS.—The sum of $2,500 has been voted for constructing sewers.

NORTH ADAMS, MASS.—Council has appropriated $9,000 for building surface sewers.

SOUTH HADLEY FALLS, MASS.—Cost of sewer system estimated at $15,000. Matter will be decided upon May 23. Snow & Barber, Civil Engrs., Boston.

SUNDERLAND, MASS.—Bids are asked until May 27 for constructing 6,500 ft. of 10-18-in. pipe sewers in Main and Bridge Sts. W. L. Hubbard, Clk. Bd. Selectmen.

WORCESTER, MASS.—Construction of filter beds has been recommended by the council sewer committee. Cost, $25,000. Also a surface water sewer in Mill St. H. P. Eddy, Supt., City Hall.

WINTHROP, MASS.—Sewers will be built in Seymour, Pauline, Fremont and Lincoln Sts. and Willow Ave.

WELLESLEY, MASS.—C. N. Taylor, Engr., received contract for laying about five miles of sewer pipe at Wellesley College.

WORCESTER, MASS.—The sewer committee has recommended the construction of sewers.

PROVIDENCE, R. I.—Contract will soon be let for sewer system in the Mt. Pleasant district.

NEW HAVEN, CONN.—T. F. Maher received contract for constructing the Chestnut St. sewer at $12,555.

ROCKVILLE, CONN.—Filtration beds being discussed. Alderman McCray, Member of Sewer Com.

ALBANY, N. Y.—Bids are asked by board of contract and supply until May 18 for constructing a 12-in. pipe sewer in Washington Ave. I. Wachsman, Clk. (See streets and roads).

AMSTERDAM, N. Y.—Bids are asked until May 20 for constructing 2,370 ft. of 8 27-in. sewer, with 8 11-ft. rock cut and 6-ft. earth cut. F. E. Crane, Supt. of Sewers. (See advertising columns).

CUBA, N. Y.—Bids are asked until June 1 for constructing sewers. Address H. P. Morgan, Village Clk. (See advertising columns.)

CORNING, N. Y.—E. J. Kelly, Cy. Clk., writes us that a sewage disposal plant will be constructed at cost of about $30,000 to $40,000.

LONG ISLAND CITY, N. Y.—T. S. Tuohy & Co. received contract for constructing on 13th Ave., at $3,247, and Peace Bros., Flushing, for Lockwood St. sewer, at $4,253.

NYACK, N. Y.—Bids will soon be asked by the sewer committee for constructing sewers.

LESTERSHIRE, N. Y.—Knight & Hopkins, Engrs., Rome, writes us bids will probably be asked this month for constructing 9¼ miles of sewer; $69,200 appropriated.

GUTTENBERG, N. J.—The plans adapted at the election provide for 4-5-ft. brick sewers and 30-36-in. pipe sewers. Cost, $40,000.

SUMMIT, N. J.—Relief sewer in Springfield Ave. being discussed.

CHESTER, PA.—Bids are asked until May 18 for constructing sewers in four streets.

BERWICK, PA.—An election to be held May 18 to decide upon constructing sewer system and other public improvements. Cost, $60,000. (See Buildings.)

LEWISTOWN, PA.—Steps have been taken to build a sewer system. Cost, $65,000.

LEBANON, PA.—City Engineer Crowell's estimate for constructing the sewer system is $300,000.

McKEESPORT, PA.—Chas. Ott, Pittsburg, received contract for constructing the South Sixth St. sewer at $2,104.

YORK, PA.—Hering & Fuller, Engrs., 170 Broadway, New York, write us that bids will be asked in July or August for constructing the sewer system.

FREDERICK, MD.—A petition has been presented for a sewer in Market St.

FORT MONROE, VA.—W. G. Morris, Phoebus, received contract for sewer extension at $3,743.

WASHINGTON, D. C.—Bids are asked until June 20 for constructing sewers. H. B. F. Macfarland, H. L. West and John Biddle, Comrs. (See advertising columns).

COLUMBIA, S. C.—Surveys are being made for sewer system.

SUMPTER, S. C.—J. L. Ludlow, Winston-Salem, N. C., will prepare plans and specifications for sewer system.

CHATTANOOGA, TENN.—Bids are asked until May 28 for constructing sewer and water system at military post in Chickamauga Park. Capt. H. J. Slocum, Q. M., Room 399, War Dept., Washington, D. C.

JELLICO, TENN.—A water-works and sewer system being discussed.

NASHVILLE, TENN.—Appropriation of $17,800 made for sewers in various streets.——The following were the bids received for extending Lick Branch sewer through Murphy property: Foster & Creighton, $39,695; E. T. Lewis Co., $40,994; Fulcher Building Co., $40,999; Nashville Plumbing Co., $41,728; for lateral sewers: Nashville Plumbing Co., $6,682; J. W. Quinn, $6,912; E. T. Lewis Co., $7,950; Foster & Creighton, $8,043; 30-in. radiating sewer on Vanderbilt Ave.: Nashville Plumbing Co., $2,854; J. W. Quinn, $3,025; Fulcher Building Co., $3,175; E. T. Lewis Co., $3,263; Foster & Creighton, $3,474.

LOUISVILLE, KY.—A sewer system being discussed.

DELPHOS, O.—Plans and specifications by Riggs & Sherman, Toledo, have been accepted by council for complete sanitary sewer system.

JEFFERSON, O.—A sewer in West Jefferson St. is being discussed.

NEWARK, O.—Petition will soon be presented for sewer in Woods Ave.

ST. BERNARD, O.—Engineer Stewart's plans for sanitary sewerage system adopted. Cost, $135,000.

TOLEDO, O.—Resolution introduced in council for sewer in Barry St.

WARREN, O.—Petitions are in circulation for improving North Chestnut and Harmon Sts. and Tod Ave.

CONNERSVILLE, IND.—Thos. Bridges & Sons, Wabash, received contract for building 7½ miles of storm water and sanitary sewer at $81,372.

NEW ALBANY, IND.—G. A. Gessner, Jr., and Engineer Fish will bid for preparing sewer system plans.

CASS CITY, MICH.—Sewer system being discussed.

CHARLEVOIX, MICH.—G. S. Pierson, Mem. Am. Soc. Civil Engrs., Kalamazoo, is preparing plans for draining and paving Bridge St.

BLOOMINGTON, ILL.—P. McDonald received contract for constructing sewer in Taylor St. and Willard Ave.

ROCKPORT, ILL.—F. Bairstow & Co., Waukegan, received contract for constructing the Railroad Ave. and 11th St. sewer at $8,000, and G. Maffioli the Fourth Ave. sewer contract.

STERLING, ILL.—Petitions presented for sewer system.

FOND DU LAC, WIS.—A 15-in. pipe sewer will be constructed in Rees St.

MARINETTE, WIS.—Property owners of Elizabeth Ave. will build a sewer from Pierce Ave. to Wells St.

SILVER CITY, WIS.—Sewer system being discussed. Cost, $12,000.

BRAINERD, MINN.—Sewers being discussed.

ST. PAUL, MINN.—The city engineer's estimate for the sewer in Baker and Manomin Sts. is $3,600, and Jenks St., $4,000.

HATTON, KAN.—The estimated cost of sewer system is $150,000. City Engineer McCabe, Topeka, made an inspection.

ABERDEEN, S. D.—Bids are asked until May 29 for constructing sewers in various streets. M. P. Stroupe, Cy. Audr.

JAMESTOWN, N. D.—$8,000 will be spent on sewer system.

ST. LOUIS, MO.—The following awards have been made for constructing about 104,000 ft. of sewers: Myers Construction Co., 421 Olive St., No. 7,197, $1,006; Rich Construction Co., 510 Pine St., Nos. 7,198, 7,199 and 7,201, at $127,289, $56,669 and $134,873 respectively, and the Municipal Engr. & Contracting Co., 315 Dearborn St., Chicago, Ill., No. 7,200, $162,205.

BELLEVILLE, MO.—Estimated cost of sewer system is $50,000.

ST. JOSEPH, MO.—Sewer extension being discussed.

GALVESTON, TEX.—More sewers contemplated.

DENVER, COLO.—A new trunk sewer will soon be constructed. Cost, $100,000.

PUEBLO, COLO.—Bids will probably be asked soon for constructing sanitary sewer.

BALLARD, WASH.—G. J. James, Deputy Cy. Engr., writes us that bids will be asked about July 1 for constructing two main sewers. Cost, $40,000.——Reports state that a sewer will be constructed in Ship, Second Aves. and Broadway at cost of $38,916.——Gering & Barth received the Ballard Ave. sewer contract at $2,314.

LOS ANGELES, CAL.—Bids are asked until May 25 for furnishing about 20,000,000 brick and 30,000 barrels of cement, to be used in constructing outfall sewer and storm drains.

REDDING, CAL.—A 6-in. pipe sewer will be constructed in Tehama St. G. H. Cochran is Supt. of Sts.

GUELPH, ONT.—The following awards have been made for constructing sewer system: Section 1, J. H. McKnight, Toronto, $6,544; section 2, W. W. Read & Co., Niagara Falls, $9,728, and section 3, J. F. Connolly, $6,640. The contract for sewer pipe has been awarded to the Toronto Sewer Pipe Co.

BONDS.—Worcester, Mass., will issue $57,000 sewer bonds.——$400,000 worth of sewer bonds will be issued by York, Pa.——Bids are asked by Pendleton, Ore., for the purchase of $30,000 sewer bonds. Thos. Fitzgerald, Recorder.——Oshkosh, Wis., will issue bonds, $10,000 of which will be for sewers.——$970,000 sewer bonds will probably be issued by Cleveland, O.

GARBAGE DISPOSAL—STREET CLEANING

HOBOKEN, N. J.—Bids are asked until May 27 for removal of ashes, garbage, rubbish, street sweepings, etc., in this city. James H. Londrigan, Cy. Clk.

WASHINGTON, D. C.—A three years' contract for cleaning a large area of street surface has been let to R. V. Rusk for 16 13-16 cts. per 1,000 sq. yds. The year's work will consist of about 200,000,000 sq. yds. machine sweeping and 25,000,000 sq. yds. flushing.

ELWOOD, IND.—We are informed that matter of garbage plant here will probably be taken up soon. W. C. Smith, Mayor.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

STREETS AND ROADS.

ROCKLAND, ME.—Union St. will be macadamized. L. S. Nevins is Engr., Milford, Mass.

ASHLAND, N. H.—Surveys are nearly completed on Main, Mill and Winter Sts., preparatory to building the new street.

ST. JOHNSBURY, VT.—Main St. will be macadamized.

BROCKTON, MASS.—Main and Centre Sts. will be macadamized at cost of $20,000.

BOSTON, MASS.—Bids are asked until May 18 for constructing a telford macadam roadway in Bennington St. Jas. Donovan, Supt. of Streets.——$6,250 has been appropriated for paving Second and other streets.

FITCHBURG, MASS.—The widening of Forest St. is being discussed.

MILFORD, MASS.—Bids are asked until May 19 for constructing brick gutters, curbing and granitoid pavements in Chestnut, Indiana and Walnut Sts.

LOWELL, MASS.—The construction of streets being considered.

NORTH ADAMS, MASS.—Bids are asked until May 21 for paving about 4,000 sq. yds. with brick, 1,500 sq. yds. with granite or medina sandstone, and curbing 1,500 ft. with granite. J. L. Temple, Comr. Pub. Wks. (See advertising columns.)

PORTSMOUTH, MASS.—At the coming financial meeting the construction of a macadam road along Sandy Point Ave. will be decided upon. Cost, $6,000.

SPRINGFIELD, MASS.—Bids are asked until May 14 for macadamizing 12,000 sq. yds.

WEST BOYLSTON, MASS.—A macadam road three miles long will be built.

WORCESTER, MASS.—The sewer committee has recommended paving the bottom of Mill Brook sewer. Cost, $25,000.

PROVIDENCE, R. I.—The bill has been passed, appropriating $100,000 for constructing and maintaining highways of the state. R. F. Rodman, Allenton, Engr.

TIVERTON, R. I.—A macadam road one mile long will be built.

ALBANY, N. Y.—Bids are asked by board of contract and supply until May 18 for paving Manning Boulevard and Broadway with macadam and asphalt. I. Wachsman, Clk. See Sewers.

BROOKLYN, N. Y.—The widening of the Shore Road is being planned.

CORTLAND, N. Y.—Chas. Brown, Mayor, writes us that ½ to 1 mile of paving will probably be done.

COHOES, N. Y.—The Barber Asphalt Co. received contract for paving Imperial Ave., Saratoga and Columbia Sts. at $13,271. Johnson Ave. will be paved with asphalt at cost of $10,802.

ELMIRA, N. Y.—Bids are asked by board of public works until May 25 for paving 34,130 sq. yds. with brick or asphalt. L. D. Conkling, Cy. Engr.

FORT SLOCUM, N. Y.—Bids are asked until May 25 for relaying brick walks. Edw. J. Donnelly, 1st Lieut., Artillery Corps, O.M. See advertising columns.

LITTLE FALLS, N. Y.—Bids are asked by board public works until May 18 for constructing 1,231 ft. brick pavement on West Main St. F. W. Klock, Cy. Clk.

SARATOGA SPRINGS, N. Y.—Various streets will probably be paved.

TROY, N. Y.—J. Flynn, Jr., Cy. Engr., writes us that bids will be asked about June 1 for paving 3,000 sq. yds. with asphalt. Plans and specifications are being prepared.

OXFORD, N. Y.—Paving roadways surrounding Lafayette Park with brick being discussed.

WATERTOWN, N. Y.—The following bids have been received for macadamizing about 19,200 sq. yds.: F. Pidgeon, Saugerties, $47,587; Barber Asphalt Co., 131 Broad St., Utica, (1) $42,185, (2) $46,085, (3) $42,965, (4) $45,805, and Warren Bros. Co., Federal St., Boston, Mass., $41,895.

COLLINGSWOOD, N. J.—About five miles of macadam roads contemplated.

HARRISBURG, PA.—The Warner-Quinlan Asphalt Co. received contract for paving 50,000 sq. yds. with sheet asphalt at $110,000.

PHILADELPHIA, PA.—$50,000 more will be required to complete the speedway in the West Park.

SCRANTON, PA.—W. W. Scranton, Pres. Gas & Water Co., has offered to pay one-third of the cost of macadamizing 6,000 ft. of the East Mountain Road. Cost, $7,000.

BALTIMORE, MD.—Various streets will be paved.

CHARLOTTESVILLE, VA.—Bids are asked by the street committee until May 19 for laying 30,000 sq. yds. of bituminous macadam, brick or gravity block pavement. De Mott & Winfree, Engrs. (See advertising columns.)

FORT MONROE, VA.—Bids are asked until June 2 for constructing paved roads, walks, concrete sea walls, etc. C. P. Townsley, Q. M.

HAMPTON, VA.—G. Chambers, Cy. Engr., writes us that $25,000 will be expended on street improvement.

AUGUSTA, GA.—Bids are asked until June 1 for resurfacing 50,000 sq. yds. on Broad St. with asphalt, brick, small Belgian block or bituminous macadam. N. Wingfield, Cy. Engr. (See advertising columns.)

KNOXVILLE, Tenn.—Bids are asked until May 19 for macadamizing about 4½ miles of pike. W. F. Park, Secy. Dandridge.

NASHVILLE, TENN.—An appropriation of $3,000 made for paving Spruce St. with brick.

JEFFERSONVILLE, KY.—A macadamized road connecting this place and New Albany may be constructed.

LOUISVILLE, KY.—Plans have been ordered prepared for paving O. St. Xavier, Stein Court, Kentucky and 28th Sts. and Fourth Ave. with blocks.

LOUISVILLE, KY.—Bids are asked by board public works until May 24 for constructing brick or block pavement on various streets.

NEWPORT, KY.—B. T. Morton, Cy. Engr., writes us that bids will probably be asked June 15 for paving about 5,500 sq. yds. with brick.

PADUCAH, KY.—L. A. Washington, Cy. Engr., writes us that surveys are not completed for paving 11,700 sq. yds. with brick. Cost, $23,400.

BOWLING GREEN, O.—Bids are asked until June 10 for macadamizing, constructing road, etc. Estimated distance about 15 miles. B. C. Harding, County Audr.

CELINA, O.—F. H. Kreusch, Village Clk., writes us that plans have been adopted for paving Walnut St.

ELYRIA, O.—Bids will soon be asked for macadamizing infirmary road.

MADISON, O.—City Engineer Ray has completed plans and specifications for brick paving on Mulberry St.

PAYNE, O.—Bids asked until May 15 for paving Main and Merrin Sts. with brick.

NEW ALBANY, IND.—Resolution passed to pave 15th, Lafayette and Washington Sts.

PORTSMOUTH, O.—Paving of Ninth and Waller Sts. discussed. Henry Amberg, Bd. Pub. Service, is interested.

STEUBENVILLE, O.—Bids are asked until June 9 for macadamizing about one mile of road.

BATESVILLE, IND.—A general system of pikes is contemplated. Address Auditor, Versailles.

BLUFFTON, IND.—Council has decided to pave 25 more squares.

BLUFFTON, IND.—D. O. North, Engr., writes us that bids are asked until June 2 for constructing 15,900 ft. of gravel road.

DECATUR, IND.—Monroe, Fourth and Sixth Sts. will be paved with brick. Estimated distance, 2½ miles.

INDIANAPOLIS, IND.—Bids will be received by the park board for constructing two boulevards. Cost, $100,000. Address Superintendent Powers.——Bids will soon be asked for resurfacing Virginia Ave.

LOGANSPORT, IND.—Resolutions have been prepared for paving various streets with brick and asphalt.

MARION, IND.—Bids are asked by county commissioners until May 22 for grading and graveling over 11 miles of the John Moffett highway. H. Pickens, J. F. Davis and R. N. Gray, Bd. of Comrs.

MONTGOMERY, IND.—Thirty miles of rock road will be built. Address County Commissioners.

PATOKA, IND.—Rock road will be constructed at cost of $53,000. Address Commissioner Dubois County, Jasper.

NEW ALBANY, IND.—Council has ordered 13 miles of streets paved with asphalt. Cost, $260,000.

WARSAW, IND.—Specifications adopted for two miles of paving with brick and asphalt. Address City Clerk.

ANN ARBOR, MICH.—Bids are asked until May 18 for 12,000 yds. of asphalt block paving. E. W. Groves, Cy. Engr.

DELRAY, MICH.—Petitions are in circulation for paving River St.

GRAND RAPIDS, MICH.—Bids are asked by board of public works until May 15 for re-surfacing State St. with sheet asphalt. Jos. Emmer, Pres.

PONTIAC, MICH.—Bids have been rejected for paving West Huron St.

SAGINAW, MICH.—Bids are asked by board public works until May 21 for laying 120,000 sq. yds. of asphalt, brick, bitulithic, asphalt block and macadam pavement. M. L. DeLand, Pres.

BUSHNELL, ILL.—Fifteen blocks more will probably be paved.

CHAMPAIGN, ILL.—A movement is on foot for paving University Ave.

CHICAGO, ILL.—State St. has been ordered paved with asphalt at cost of $24,500.——A movement is on foot for paving streets from 12th St. to the river and thence to the lake with asphalt. Cost, $1,000,000.——Michigan Boulevard will probably be improved. A. H. Nelson, Comr. South Park Improvement Asso.——The Barber Asphalt Co. received contract for paving five miles of streets with asphalt at cost of more than $300,000.

CHICAGO, ILL.—Bids are asked until May 16 for restoring block pavement, sewer, etc., on Lake Ave. and 39th St. F. W. Blochl, Comr. Pub. Wks.

CHICAGO, ILL.—Bids are asked by board local improvements until May 20 for paving, grading, etc., various streets with granite, asphalt, etc. A. M. Lynch, Pres.

MATTOON, ILL.—L. C. Stubbins, Cy. Engr., wants catalogues and samples of paving materials.

QUINCY, ILL.—The streets of Park Place will be paved with brick.

ASHLAND, WIS.—Second St. will be paved.

MADISON, WIS.—Bids are asked by street assessment committee until May 22 for macadamizing Park St. O. S. Norman, Clk.

MILWAUKEE, WIS.—In spite of Gov. La Follette's veto, the park commissioners will probably complete the Lake Shore Boulevard. Cost, $300,000.

DUBUQUE, IA.—City Engineer Boyce is preparing plans for widening Davis Ave.

SIOUX CITY, IA.—Cement sidewalks from Jackson to Pierce Sts. may be constructed.

DULUTH, MINN.—P. McDonnell submitted the lowest bid for paving Second Ave., at $13,253. Sandstone blocks will be used. Bids will soon be asked for paving Michigan St. Cost, $9,000.——City Engineer Patton's estimate for paving London Road is $6,500.

ST. PAUL, MINN.—The following bids have been received for granite paving on East Third St.: P. H. Thornton, $11,629; Jas. Forrestal Co., $12,900; Fielding & Shenley, $12,360, and P. J. Ryan, $12,443.——Asphalt will be used for paving University Ave. Jas. Quinn is interested.——P. J. Ryan received contract for grading Fairfield Ave. at $17,200.

RAPID CITY, S. D.—Several streets will be macadamized.

BUTTE, MONT.—A road from Second St. to the junction of the race track and Columbia Gardens car lines may be constructed at cost of $16,000.

KANSAS CITY, MO.—G. E. Kessler, Engr. Bd. Park Comrs., is preparing plans for the new Swope Park Boulevard. It will be 150 ft. wide.

ST. JOSEPH, MO.—The paving of King Hill Ave. is being discussed.

FORT WORTH, TEX.—Houston St. will probably be paved with asphalt.

HOUSTON, TEX.—Alderman Miller is seeking to have Chenevert St. paved with brick.

DENVER, COLO.—The boulevard from the north end of the 14th St. viaduct to Harkness Heights will be paved.

DENVER, COLO.—We are informed that bids will soon be asked for paving driveway through North Denver with disintegrated granite.

BALLARD, WASH.—G. P. James, Deputy Cy. Engr., writes us that Stirrat & Goetz, Seattle, received contract for paving 8,283 sq. yds. with brick at $38,179.

ENUMCLAW, WASH.—An appropriation of $10,000 has been made for preliminary work and surveys for a military road from this place to Rainier Forest Reserve Park. D. C. Ashmun is interested.

SPOKANE, WASH.—The board of public works awarded the Barber Asphalt Paving Co. contract for paving North Monroe St. at $21,996.

TACOMA, WASH.—Paving of Yakima Ave. with asphalt or macadam is petitioned for.

NAPA, CAL.—Coombs St. will be macadamized. O. M. Buckman is Supt.

KOOSKIA, IDAHO.—Bids are asked by the Clear Creek Development Co. until May 23 for constructing road 3,300 ft. long. J. W. Fonderson, Secy.

ST. MARY'S, ONT.—The sum of $20,000 has been voted for permanent roadways.

BONDS.—St. Paul, Minn., will issue $30,000 for macadamizing West Seventh St.——$3,000,000 may be issued by Chicago, Ill.——Anderson, S. C., will issue $25,000 for street improvements.——Sandy Hill, N. Y., may issue $80,000 for paving Main St.

MANUFACTURING PLANTS.

BOSTON, MASS.—W. B. Frye, of S. D. Warren & Co., writes us that the building referred to in our last week's issue is a small sawmill for cutting up pulp wood, and will be erected by the company itself.

PLYMOUTH, MASS.—Local press reports state that the Puritan Mills, a branch of the American Woollen Co., has closed its plant, owing to the sinking of a section of the mill in quicksand.

BUFFALO, N. Y.—H. S. Teal, Secy., U. S. Heat-Light Co., writes us that the contract for two 2-story brick buildings, inside work of brick and yellow pine, has been let to S. H. Woodruff, 500 Main St., Buffalo.

NEW YORK, N. Y.—The Mohawk Valley Steel & Wire Co., will, it is said, erect a plant at Utica, N. Y., to serve the middle and northwestern states.

COATESVILLE, PA.—J. B. Lowrey, Phoenixville, Pa., is having plans made for a brick and steel brewery for this place to cost $60,000. A full line of power and heating equipment will be put in.

EDDYSTONE, PA.—The McClintock-Marshall Construction Co., Pittston, Pa., has received the contract for the main building of the Stolingworth Railway Supply Co.; also contracts for the foundry and machine shop of the Valentine Engineering Co.

GETTYSBURG, PA.—The Pennsylvania Rubber Fiber Mfg. Co., W. E. Sharp, Drexel Bldg., Philadelphia, contemplate constructing a factory at this place this summer.

NEW CASTLE, PA.—Local press reports state that plant No. 2 of the Clark Bros. glass plant at Ellwood City has been destroyed by fire. The loss is estimated at $25,000.

PHILADELPHIA, PA.—The Newhall Engineering Co., 136 Fourth St., will soon award the contract for a brick and steel 2-story addition to a machine shop.——W. K. Mitchell & Co. have let a contract to F. S. Riggs, 608 Chestnut St., for brick and steel 1-story, 120 × 180-ft. and 25 × 50-ft. machine shop. New equipment and special machinery will be installed.——Morris & Vaux, Archs., Stephen Girard Bldg., are soon to let contracts for a brick 4-story, slow-burning construction addition to the paper factory of Dill & Collins at Tioga and Richmond Sts. New equipment is to be installed.

PITTSBURG, PA.—The contract for the 4-story, 80 × 160-ft. brick and steel brewery for the Liberty Brewing Co., has been let to A. & S. Wilson, 541 Third Ave. Otis C. Wolf, Engr., 1025 Arch St., Philadelphia, has full charge of equipment.

PITTSBURG, PA.—The Pennsylvania and Baltimore & Ohio Ry. Cos. will build a $1,000,000 freight warehouse with grain elevators.——The Pennsylvania Engineering & Foundry Co. will erect large iron foundry.

POTTSVILLE, PA.—Plans have been completed for new bridge works of Eastern Steel Co., to be erected at this place. The plant is to have double the capacity of the old one.

SHARON, PA.—It is stated here that it will require at least $2,000,000 to complete the improvements at the South Sharon works of the United States Steel Corporation.

MOUNDSVILLE, W. VA.—A $3,000,000 plant for manufacuring pressed steel cars and structural shops is to come here through the efforts of the local Board of Trade.

ATLANTA, GA.—We are informed that everything has been bought for proposed cotton mill of Fulton Bag & Cotton Mill Co., save feed water heaters, cooling towers, condensers and economizers. Bids for the building were to have been opened May 12.

COLUMBUS, GA.—Standard Manufacturing Co., Atlanta, Ga., is said to be considering establishment of pants, shirt and overalls factory here.——E. P. Dismukes is stated to be interested in the formation of a company to build a yarn and hosiery mill at North Highlands.

DUBLIN, GA.—Guano factory likely. B. B. Lovett, Sandersville, is interested.

PENSACOLA, FLA.—The Curry Fertilizer Co., Louisville, Ky., is to erect a fertilizer plant here and has placed specifications in hands of builders; work is to commence soon.

BIRMINGHAM, ALA.—The Louisville & Nashville R. R. Co. has appropriated $300,000 with which to remove its shops, yards and roundhouse to Boyles.

BIRMINGHAM, ALA.—A local press report states that the plant of the Southern Sewer Pipe Co. at North Birmingham has been destroyed by fire, causing a loss of $150,000, with about $75,000 insurance.

DEMOPOLIS, ALA.—Reported that another cement plant is to be established here.

LAKE CHARLES, LA.—A company has been formed with $300,000 capital to erect a paper mill at this place. Robert Thomas is the projector.

MEMPHIS, TENN.—We are informed that Fuller Cotton Gin Co., J. T. Fuller, Vice-Pres., proposes to erect five brick or concrete buildings for their plant. The estimated cost of the equipment is $80,000, and Weathers & Co. are Archs.

NASHVILLE, TENN.—The Waterbury Button Co., Waterbury, Conn., is said to be considering moving its factory from Vinton, Ia., to this city, and increasing its capacity.

OWENSBORO, KY.—S. R. Ewing, Pres. Owensboro Forging Co., writes us that proposed plant is now being constructed under superintendence of J. C. Cass, Gen. Mgr. It will cost $6,000; the estimated cost of the equipment is $18,000.

PADUCAH, KY.—It is reported that the repair shops of the Evansville division of the Illinois Central are to be moved from Henderson to Princeton and enlarged.

CINCINNATI, O.—R. P. Harkness, Jr., writes us that the proposed factory of the Jno. Van Range Co. is to be 112 × 98 ft., of brick and iron, with concrete floors, and will be four stories (possibly eight) high. Samuel Hannaford & Sons, Hulbert Block, are Archs.

CLEVELAND, O.—Bids are asked by the Sherwin-Williams Co. until May 15 for erecting building which will cost about $200,000.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

BROWNSBURG, IND.—Plans for an additional factory for Faulkner & Webb, at this place, have been completed by James Wiggans, Arch., Indianapolis, Ind.

COLUMBUS, IND.—$10,000 plant to be erected here by American Foundry Co.

GOSHEN, IND.—C. D. White, Mgr. Osceola Foundry & Specialty Co., writes us that it will be a month or so before the engineering work for their proposed machine shop and foundry is taken up. The building is to be of brick 25 x 60 ft.

GREEN CASTLE, IND.—Noblesville Glass Co. is to move to this city and construct a $25,000 plant.

INDIANAPOLIS, IND.—Stated that Columbia Conserve Co., C. H. Hapgood, Pres., will erect new plant to manufacture food products. Company has capital of $300,000.

SHELBYVILLE, IND.—Shelbyville Canning Co., capital $45,000, will build new plant. Grafton Johnson is Pres.

EAU CLAIRE, WIS.—Large paper and pulp mills may be erected at Brunetts Falls.

MILWAUKEE, WIS.—It is probable that the Allis-Chalmers Co. plant in this city will be much enlarged. It is said that Christenson Engineering Co. also contemplate enlargements which would double their air brake and electric department.

ST. PAUL, MINN.—Geo. N. Taylor has taken out a building permit for erecting 4-story brick factory at Livingston and Indiana Aves., for manufacture of wooden ware, to cost $40,000.

CAMERON, TEX.—A $12,000 canning factory may be established here. T. S. Cameron is interested.

DALLAS, TEX.—We are informed that Parlin & Orendorf Co. propose to erect brick and steel warehouse, 100 x 150 ft., at corner Broadway and Pacific. The estimated cost is $75,000.

PLATONIA, TEX.—M. Cockrill is interested in project for establishing kaolin factory here.

SAN MARCOS, TEX.—Capt. Wm. Green writes us that they are merely discussing the feasibility of a cotton mill.

PALOUSE, WASH.—Reported that the Potlatch Lumber Co. will next season construct a large mill, together with sash and door factory.

SEATTLE, WASH.—Geo. G. Hackett, Mgr., Hackett Cold Storage Co., Boston, Mass., will, it is said, erect a $150,000 plant near this place.——Plant for manufacture of shingle bands for Acme Flexible Clasp Co., Chicago, Ill., may be located here. Jas. E. MacMurray is interested.

PORTLAND, ORE.—American Can Co. has taken out permit for $44,000 factory.

STOCKTON, CAL.—Pacific Sanitary Ware Co. writes us that contract have been let for the machinery for their plant.

MISCELLANEOUS CONTRACTS.

FIRE ENGINE.—Granby, Que.—Purchase of steam fire engine by city said to be contemplated.

PARK WORK.—Memphis, Tenn.—The park commissioners are to have $60,000 for park work.

DREDGING.—Camden, Me.—Contract for dredging Camden harbor has been let to Hamilton & Sawyer.

WHARVES.—San Francisco, Cal.—The construction of new city wharves is stated to be a necessity.

WHARF.—Fulton, Va.—The Richmond Cedar Works Co. are said to contemplate construction of new wharf.

TUNNEL.—Los Angeles, Cal.—The Crown Hills Improvement Association is working for a $20,000 tunnel at Third St.

TUG BOAT.—Vallejo, Cal.—A tug boat to cost $25,000 is to be built for the navy department at the Mare Island Navy Yard.

DREDGING.—Boston, Mass.—Legislature has passed bill appropriating $25,000 for dredging channel at easterly shore of Dorchester.

DITCH.—Sioux City, Ia.—J. M. Lewis, Cv. Engr., has been making preliminary surveys for the Stoddard ditch in Woodbury county.

OIL FIELD DEVELOPMENT.—Frankford, Ind.—Capitalists from this place have organized for developing the oil fields west of Arcadia.

PARK WORK.—Scranton, Pa.—Recorder Connell has recommended that $100,000 be raised by a bond issue for improving Nay Aug park.

STREET SIGNS.—Portland, Ore.—A special council committee is stated to be ready to receive samples and prices of permanent street signs.

PORTLAND CEMENT.—Zanesville, O.—Bids are asked until May 18 for furnishing 700 bbls. Portland cement. Maj. Ernest H. Ruffner, U. S. Engrs.

JETTY.—South Kingstown, R. I.—Contract for a jetty at Point Judith Salt Pond has been let to John Briston, Narragansett, R. I., for about $10,000.

NATATORIUM.—Sacramento, Cal.—A company has been formed here with $50,000 capital, to establish public baths in this city. A. J. Johnson is interested.

DITCH.—Reno, Cal.—Surveyors are making surveys for a ditch for mining purposes; cost of ditch and plant estimated at $30,000. E. McGrath is interested.

DOCK.—New Orleans, La.—The Good Intent Dry Dock Co., C. P. Truslow, Pres., is stated to be increasing its capital stock for the construction of a new dock.

BASIN IMPROVEMENTS.—Albany, N. Y.—Bill has been before Governor authorizing expenditures of $25,000 for improving Albany basin by dredging and cleaning.

SIGNALING APPARATUS.—Portland, Me.—It is probable that the War Department will allow the U. S. Engineers about $100,000 for establishing a signal station.

PILE DOCK.—New York, N. Y.—Bids are asked until June 10 for building pile dock at Sandy Hook. Maj. W. L. Marshall, U. S. Engrs. (See advertising columns).

LEVEE.—Terre Haute, Ind.—Bids are asked until May 27 for constructing a levee in Sugar Creek District. E. B. Sheets, Clk. Bd. Directors, 329½ Ohio St., Terre Haute.

PUMPING PLANT.—Salt Lake City, Utah.—The O. K. Extension Mining Co., A. J. McMullen, Mgr., will probably equip its Beaver Lake mines with a pumping plant.

SUBWAY.—Montreal, Que.—Bids are asked until May 22 for excavation, concrete, masonry etc., in the substructure of the St. Denis St. Subway. L. O. David, Clk.

LEVEE WORK.—Memphis, Tenn.—The Yazoo levee according to reports, is to be improved at a cost of $500,000. Col. Thos. G. James, Sharky, Miss., is a levee commissioner.

STONE DOCK.—New Rochelle, N. Y.—Bids are asked until May 19 for constructing a stone dock in Hudson Park. Chas. Kammermeyer, Cy. Clk. (See advertising columns).

DITCHES.—Peru, Ind.—Chas. H. Harris, Construction Comr., is stated to be calling for bids on sub-contracts for constructing large drain in Miami, Cass and Fulton counties.

PARK BONDS.—Chicago, Ill.—A vote will be taken in the South Park district June 1 on issue of $3,000,000 bonds for new parks. Henry G. Foreman is Pres. South Park Comrs.

FERRY TERMINAL.—New York, N. Y.—The Board of Estimate is to at once consider plans for the improvement of the ferry terminal and approach at St. George, Staten Island.

TRAMWAY.—Rossland, B. C.—Plans are said to be under way for a tramway from the Kootenay Mine to the C. P. R. R., a distance of one mile. The cost is estimated at $20,000.

STREET CARS.—Jacksonville, Fla.—Mason & Elwes wish to purchase six motor cars of not less than 45 ft. in length, as is more fully described under Street and Electric Railways.

CAST-IRON PIPE.—Washington, D. C.—Bids are asked by the District Commisioners until June 6 for furnishing 5-ft. cast-iron pipe, specials and flexible joints. (See advertising columns).

ELECTRIC ELEVATORS.—Washington, D. C.—Bids are asked by the Bureau Yards and Docks until May 29 for installing six direct-connected electric elevators. M. T. Endicott, Ch. Bu.

TRAINING WALLS.—St. Augustine, Fla.—Bids are asked until June 9 for constructing training walls in St. John's River. Capt. Francis R. Shunk, U. S. Engrs. (See advertising columns).

REDUCTION PLANT.—Albuquerque, N. M.—Reports state that the Triumph Mining & Development Co., Capt. Thos. McEnery, Mining Engr., El Paso, Tex., is to erect a 500-ton reduction plant.

HOISTING PLANT.—Salt Lake City, Utah.—The contract for a 50-HP. steam hoisting plant for the New State Gold Mining & Milling Co. has been let to Fairbanks, Morse & Co., Chicago, Ill.

WHARF.—Long Beach, Cal.—Howard C. Holmes, Ch. Engr., San Francisco, Cal., has estimated that a new single-deck wharf can be built for this city for $45,700, or a double-deck one for $53,700.

DREDGING, ETC.—Pewaukee, Wis.—The village officials and private parties are said to be considering the improvement of the lake front by dredging and the like at an expense of about $150,000.

WHARF WORK.—Tompkinsville, N. Y.—Bids are asked until May 25 for extending and repairing wharf at New London Light House Depot. Maj. Wm. T. Rossell, U. S. Engrs. (See advertising columns).

EXCAVATION, ETC.—Chattanooga, Tenn.—The contract for the excavation and construction of river walls of the Muscle Shoals Canal has been let to the Sheridan & Kirk Construction Co., for $545,000.

LUMBER AND PILING.—New Orleans, La.—Bids are asked until May 19 for furnishing lumber and piling, as may be ordered by Port Commissioner for a terms of one year. Hugh McCloskey, Pres. Bd. Comrs.

DREDGES.—Philadelphia, Pa.—Bids are asked until June 30 for constructing two large steel, twin screw suction dredges for New York Harbor. Capt. J. C. Sanford, U. S. Engrs. (See advertising columns).

FENDERS.—Portland, Ore.—Fenders are to be required on all cars operated in city limits. This will affect some 300 cars of Portland Ry. Co., the City & Suburban Co., and the Oregon Water Power & Ry. Co.

SMELTER REDUCTION PLANT.—Jerome, Ariz.—Construction of smelter here contemplated by Cleopatra Copper Co. G. W. Hull, Pres.——Yaeger Canyon Copper Co. contemplates erection of reduction plant.

TRAINING SHIP.—Vallejo, Cal.—Rear-Admiral Miller is said to have received official intimation that one of the $450,000 training ships authorized by the last Congress will be built at the Mare Island Navy Yard.

SEA WALL.—Washington, D. C.—Bids are asked by the Bureau Yards and Docks, until May 29 for constructing training wall at League Island Navy Yard; fund available $48,000. M. T. Endicott, Ch. Bureau.

TUNNEL.—Pittsburg, Pa.—The Pittsburg Subway Tunnel Co. has been incorporated with $250,000 capital, to build a subway tunnel between Pittsburg and Allegheny. James G. Wyman of the latter city is an incorporator.

PARKS AND PARKWAYS.—Boston, Mass.—Bills are before legislature to appropriate $300,000 annually for five years for Metropolitan parks, and $300,000 annually for same length of time for parkways and boulevards.

CANAL WORK.—Montreal, Que.—It is stated that the Canadian Government will complete during the coming year a waterway from the Georgian Bay to North Bay by the French River route. The work will cost about $6,000,000.

RIVER IMPROVEMENT.—Jackson, Mich.—Plans for the improvement of Grand River are to be made by Geo. S. Pierson, Cons. Engr., Kalamazoo, Mich. The work includes intercepting sewers, a sewage pumping station and sewage disposal.

LUMBER LAND DEVELOPMENT.—St. Johns, N. F.—A syndicate is stated to have purchased 2,000,000 acres of timber pulp lands in New Foundland and will develop it on a large scale. Henry M. Whitney, Boston, Mass., is head of the syndicate.

LOCK SYSTEM.—Crowley, La.—We are informed that the contract for a system of locks in the Mermentou River, bids for which were asked April 21, has been let by the Rice Irrigation & Improvement Co. to Lovett & Maze, Beaumont, Tex.

SMELTER.—Salt Lake City, Utah.—Reports state that contracts are to be let soon for the Yampa smelter of the Tintic Mining & Development Co. Geo. H. Robinson, Gen. Mgr. Jas. W. Neill, Cons. Engr., is said to have charge of letting the contracts.

PIERS.—New York, N. Y.—Bids are asked until May 22 for building new piers at Bay Ridge Ave. and between 51st and 53d Sts.; also for repairing and paving recreation pier at Metropolitan Ave. McDougall Hawkes, Dock Comr. Pier A, Battery Pl.

DREDGE.—Jacksonville, Fla.—General Gillespie, Chief of Engineers, has recommended that an inside dredge be constructed for the St. John's River. It is estimated that by using some pumping machinery now on hand the dredge can be built for $50,000.

TUNNEL.—Montreal, Que.—Plans for a tunnel underneath the St. Lawrence River to connect Montreal and Longueil have been submitted to the Dominion Department of Railways. The plans provide for a double track tunnel, 27 ft. wide and 21 ft. high, with a gradient of about 2%. The tunnel is to be built of concrete and stone masonry, with a lining of enamel brick.

STAMP MILLS.—Roosevelt, Idaho.—Reports state that the Belle of Thunder Mountain Co. will install a 40-stamp mill at the Sunnyside mine, that the Kansas City Gold Reef Co. will install a 20-stamp mill, and that a 100-stamp mill will be installed at the Dewey mine.

BROOK ENLARGEMENT.—Melrose, Mass.—Hearings are being held regarding the enlargement of Spot Pond Brook at an estimated cost of $275,000. Of this sum the State would pay $150,000 and Malden and Melrose the remainder. Sidney H. Buttrick is Mayor of the latter city.

TO FOUND TOWNS.—Joplin, Mo.—The Arkansas, Missouri & Kansas Land & Townsite Co., Jas. T. Brink, Pres., recently incorporated with $1,000,000 capital, has entered into a contract with the Arkansas, Missouri & Kansas R. R., for founding 50 towns along the line of that road.

MINING MILL, ETC.—Nogales, Ariz.—It is stated that the Big Mountain Mining Co., P. Sandoval, Pres., plans to erect an automatic mill of 250 tons, to install a system of air compressors, conveying pipes, machine drills in the various mines and a complete electric lighting plant; also a system of wire tramways.

DRAINAGE.—Fresno, Cal.—The carrying out by the U. S. Agricultural Department of the open drainage plan for this district will necessitate the construction of eight miles of intercepting ditches and 45½ miles of laterals. The total cost is estimated at $235,884. By the covered system the cost would be about $280,000.

MINING WORK.—El Paso, Tex.—The Sierra Consolidated Mining Co., New York, N. Y., is said to contemplate the purchase and operation of the Snake and Opportunity mines. It is also said that the company propose to put in a reduction and milling plant and to construct tramways and an electrical plant. R. H. Hopper is Gen. Mgr.; W. A. Farrish, Equitable Bldg., Denver, Colo., is Consult. Engr.

MINING EQUIPMENT.—San Francisco, Cal.—Reports state that the following improvements or additions in equipment will be made by various mining companies: The Woodstock Mining Co., San Bernardino, Cal., will equip its property with a 100-ton cyanide mill; the Pacific Smelting Co., Bakersfield, Cal., will build a smelter and sampling works this summer; the Wedekind Gold Mining & Milling Co., Bodie, Cal., will equip its property with a mill during the present season; the Newport-Nevada Mining Co., Fay, Nev., will doubtless erect a mill this season; five stamps to be added to the battery of the mill, at Shady Run mine, R. A. Watson, Supt., Blue Canyon, Cal.; the Fairview Mining Co., operating near Minersville, Cal., J. H. Porter, Supt., will add ten stamps to its mill battery in the near future; at the Mazeppa mine, Henry Moore, Supt., Stent, Cal., five stamps are to be added to the new mill and new concentrating tables installed.

MINING EQUIPMENT.—Salt Lake City, Utah.—Reports from this city state that furnaces are soon to be installed at Stayton quicksilver mines, Hollister, Cal., that the Posey mine, Nevada City, Cal., Mr. Bray, Supt., is to have a five-stamp mill; that Capt. W. A. Nevills, of the Ann mine, Jamestown, Cal., will add 40 stamps to his mill battery; that a 10-stamp mill is to be installed for the Gold Tunnel mine, near Nevada City, Cal., J. Eddie, Supt.; that D. P. Gray will soon equip the Banner mine, near Eldorado, Cal., with a hoist and mill; that the Monte M. & M. Co., of Los Angeles, Bruce McBeath, Dir., will install a 10-stamp mill at its Del Monte mine, near Coloma, Cal.; that a 10-stamp mill is to be built for the John Royal mine, near Columbia, Cal., by W. L. Holm, Detroit, Mich., and that W. H. Edwards, Salt Lake City, will equip his Muncy Creek, Nev., properties with hoisting works, air compressor and drills and machinery. Later in the season a smelter is contemplated for this property.

U. S. POSSESSIONS AND CUBA.

HARBOR IMPROVEMENTS.—Manila, P. I.—The civil commission has appropriated $1,000,000 to continue the work of harbor improvements for the port of Manila.

RAILWAY IMPROVEMENT BONDS.—Cuba.—The stockholders of the Havana Electric Ry. will vote on June 4 for the question of authorizing the use of $250,000 in bonds for the purpose of construction, equipment or improvements.

RAILWAY.—Alaska.—A. B. Iles and Portland, Ore., capitalists are backing the Valdez, Conner River & Tanana R. R. Co., and have subscribed $75,000 in cash for the construction of the line from Valdez to the American Yukon, by way of the new Tanana diggings.

MUNICIPAL IMPROVEMENTS.—Honolulu, H. I.—The following bills have passed the U. S. Senate: Repairs for Oahu jail, $20,000; Hilo jail, $16,000; new insane asylum, Oahu, $75,000; new dispensary, Honolulu, $8,000; garbage crematory, $10,000; sewerage, Honolulu, $83,250.

CABLE.—Alaska.—Articles of incorporation have been filed by the North American Telegraph & Cable Co., capital stock, $5,000,000, which provides for the building of a submarine cable from Seattle to Valdez and other Alaskan points, and thence to Vladivostock. Judge Thos. Burke, of the Great Northern Ry.; Capt. John J. Healy, and Prince Alexis Dolgornkoff, of St. Petersburg, Russia, are interested.

RAILWAY, ETC.—Porto Rico.—J. N. Vandergrift, Vice-Pres. Vandergrift Construction Co., Drexel Bldg., Philadelphia, Pa., writes us that the ordinance from the government for the construction by the Vandergrift company of the line of railway across the island, and for the development of water power for lighting and industrial purposes, was finally signed by President Roosevelt before his departure for the West, and since that time surveys for the development of the water power have been started and two engineering corps are now in the field. It will require about two or three months in completing the location. Mr. Vandergrift says his company has no connection with the distillery proposition at San Antonio, P. R., other than they have decided to sell its promoters some real estate which will not be needed for terminals and yards at that point.

MEXICO.

POWER PLANT.—Parral.—Pedro Alvardo, of this city, will install an electric power plant at his Palmillo mine.

BUILDING.—Merida.—State government has approved plans for the new insane asylum, and contract will soon be let.

FACTORY.—Chihuahua.—John J. Reilly, Tucson, Ariz., and E. Cooper, Aurora, Ill., will establish an overall factory here.

SMELTER.—Saltillo.—Reports state that Duncan Mackay has obtained concession for establishing a smelter here, to cost $500,000.

STREET RAILWAY.—Monterey.—Empresa St. Ry. Co. has decided to extend its line to the plant of the Monterey Iron & Steel Co.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

TUBING.—Mexico City.—The city council has authorized the purchase of 300 meters each of 8 and 6-in. tubing for artesian wells.

FACTORY.—Mexico City.—The Sunlight Gas Co., Cincinnati, O., will locate a factory here. Pres. Baumgartner is making arrangements.

BUILDINGS.—Monterey.—The glass works here are to be enlarged by the erection of new buildings for the manufacture of bottles and window glass.

SMELTER.—Sonora.—The Mine Grande Consolidated Mining & Milling Co. has notified its stockholders that a 100-ton smelter will shortly be erected.

RAILWAY.—Saltillo.—Contract for constructing branch line of the Coahuila & Zacatecas R. R., from Alvalos to San Luis de Ocampo, let to J. D. Melville.

FACTORY.—City of Mexico.—Company being organized here to establish large factory for manufacture of steel files. It is proposed to invest $200,000 in the enterprise.

RAILWAY.—Irapuato.—Contract for Morelia & Tacanbaro Ry. reported let to Powell & Mason, Baltimore, Md. The line will run from this town south to Morelia, about 300 miles.

TELEPHONE.—Chihuahua.—It is proposed to extend the telephone service from the City of Chihuahua to principal villages in the state. Address Manager, Chihuahua Telephone Co.

ELECTRIC LIGHT.—Cordoba.—Seguro, Braniff & Co., Orizaba, have contracted to furnish Cordoba with electric light and power. The power will be transmitted from Orizaba, about 16 miles.

STARCH FACTORY.—Villa Aldama.—Preparations are being made to construct a large starch factory in Villa Aldama, State of Chihuahua. Address Senor Manuel Pietro, Villa Aldama.

HOSPITAL IMPROVEMENTS.—Plans have been drawn and contract will soon be let for constructing operating ward and other improvements at the Monterey Hospital. Dr. U. H. Nixon is Supt.

RAILWAY.—Tampico.—Mexican Central engineers, headed by R. S. Cummins, have begun the survey of the Mexico City-Tampico line out of this place. L. Kingman is Ch. Engr., Mexico City.

RAILWAY.—Mapini.—The Penoles Mining Co. will soon commence work on a railroad from this place to its coal fields, 65 miles southwest; surveys completed. Company operates extensive mines and a large smelter.

RAILWAY.—State of Durango.—The San Acasil Mining Co. has obtained a concession from state government to construct a railway from its mines to connection with another road. Address Compania Minero de San Acasil, Estado de Durango, Mex.

RAILWAY EXTENSION.—Durango.—Engineers are now running the third line of surveys for the proposed extension of Mexican International R. R., from Durango to the port of Mazatlan. Company will build to its new coal fields in State of Coahuila.

PUBLIC BUILDINGS.—City of Mexico.—The government is considering the proposition to appropriate $2,500,000 for constructing public buildings as follows: For a general hospital, $600,000; poor asylum, $300,000; new post office, $1,500,000; schools, $100,000.

RAILWAY.—Monterey.—It is reported that the Cia. de la Gran Fundicion de Fierro y Acero (iron and steel foundry) of Monterey, will build a railway to unite Neuvo Laredo with the Hacienda de San Enrique, Coahuila, where there are immense deposits of coal.

MINING PLANT.—Sonora.—C. Harlot, Pres. and Gen. Mgr., Triunfo Mining Co., Sonora, is in El Paso, Tex., to make arrangements for installing a 50-ton plant. It is not decided whether a concentrator or a smelter or a combination plant will be put in.

ELECTRIC TRACTION. — Guadalajara. — Engineers are now making plans for the proposed change of the Guadalajara Tramway Co. from animal to electric traction. Ramon Pacheco is Supt. Length of lines about 32 miles. Electric energy will be generated from water power.

JUAREZ.—A 99-year government franchise has been granted to the El Paso St. Ry. Co. in this city. One of the conditions of the franchise is that the company shall pay to the city $5,000 Mex. in cash, which sum is to be applied to a fund to be used in establishing a water-works system here.

SUGAR REFINERIES.—Topolobampo.—Zacarias Ochoa, of this place, is in the United States organizing a company of Americans, with $4,000,000 capital to build and operate sugar refineries here, and at other points in the sugar-growing district. W. H. Masters, New Orleans, La., is interested.

ELECTRIC LIGHT.—Merida.—The electric light and power plant of Merida is of insufficient capacity to meet the demands of the city, and the city council is contemplating entering into a contract with another company. Address Senor Presidente del Ayuntamiento, Merida, Estado de Yucatan.

TELEPHONE.—Mexico City.—The Samuels Hermanos Co., Mexico City, representatives of the London syndicate which has the concession for a telephone system here, has received cable advice that the company will be incorporated in London within a few days. Active work of construction will commence about June 1.

ELECTRIC RAILWAY.—State of Sonora.—The Rey del Ore Mining Co. plans electric railway form its mines to connect with the Southern Pacific Ry.; about 200 miles long; power wil be generated from a waterfall in the vicinity of the eastern terminus. Address Gerente General, Compania Minerg del Rey del Ore, Estado de Sonora, Mexico.

RAILWAY.—Mexico City.—The concession held by W.W. Norris for a railway from Mexico City to Contreras has been extended; time for completion of first section, from this city to point near San Angel, April 15, 1904; for finishing second section, April 15, 1906. The road will be about 26 kilos long and of standard gage. Mr. Norris is now in the United States, but is represented in Mexico City by Albert Hohenthal.

ELECTRIC POWER.—Durango.—Mr. Stahlknecht, of this city, is at the head of a syndicate which will establish an electrical generating plant on the Tunal River, about four miles from here. Mr. Stahlknecht owns the water rights of this river and engineers who have examined the project report it feasible. It is possible to develop 800-HP. About $50,000 will be expanded in the construction of a dam. The power will be transmitted to Durango.

WATER POWER.—State of Puebla.—Congress has approved the contract entered into between Gen. Manuel Cosio, Secy. Colonization and Industries, and Chas. H. Cahan, of Mexican Light & Power Co., Ltd., authorizing last-named company to utilize the waters of the Tenango, Nacosa and Cotepuctla rivers in the districts of Huachinango, State of Puebla. Company proposes to push construction at once. Address Chas. H. Cahan, City of Mexico.

PAPER MILL.—Monterey.—Carlos Piazzina, an Italian resident of Monterey, contemplates building paper mill in this city, the capital to be invested being about $350,000 gold. Associated with Mr. Piazzini will be L. and A. Bim, Italy, who are now interested in the manufacture of paper. Mr. Piazzini will leave for Italy not later than August to complete arrangements, and will as soon as possible after his return commence the erection of the mill.

WATER SUPPLY.—Puebla.—Jose Traslosheros, of this city, is at the head of a syndicate which proposes to establish complete system of water-works here. The water supply is to be obtained from the Oja de Agua springs at Tepeac, and will be conveyed to Puebla by means of an aqueduct 30 kilos long. Mr. Traslosheros has applied to the state government for a subsidy of $5,000 on each kilometer of aqueduct constructed. Its construction will involve the building of a tunnel 3,000 meters long and 20 bridges.

WATER-WORKS.—State of Jalisco.—Concession granted Dwight Furness, by the Federal government, to utilize the waters of a thermal spring situated on the banks of Lake Chapala, in the State of Jalisco, for industrial purposes. The construction of the works must commence within 24 months from April 29, 1903, and be completed within seven years from that date. The enterprise is exempted from taxation for five years, and the introduction of the necessary machinery into the country free of duty is allowed. Address Dwight Furness, Guanajuato, Estado de Guanajuato, Mex.

FOREIGN CONTRACTS—EXPORT NEWS.

ELECTRIC TRACTION.—Uruguay.—Ramez Suarez of Montevideo, is interested in the proposed electric traction system in that city.

RAILWAY.—Portugal.—The directorate of the Minho and Douro Railway is authorized to proceed with the revision of the estimates for the extension of the branch line from Custom House to Leixees.

ELECTRIC POWER PLANT.—Insein, India.—Bids are asked until June 26 for the electric lighting and power plant for Insein workshops of the Burma Rys. Co., Ltd. C. E. Cardew, Locomotive Supt.

RAILWAY.—Asia-Minor.—It is stated that the Turkish Government will present the German Anatolian Ry. Co. with the bonds of a loan which will insure the construction of the Bagdad Ry. from Koria to Bagdad and the Persian Gulf.

CANAL.—Italy.—Reports state that an American and Italian company has been formed to construct a canal across northern Italy from the Mediterranean to the Adriatic. The company will be known as the Genoa Venice Canal Co., Ltd., and will be capitalized at $100,000,000.

RAILWAY.—Spain.—Bids will be received at the Office of Concession and Construction of Railways, Ministry of Agriculture, Industry, Commerce and Public Works, Madrid, until June 30, for constructing a railway from Estrella to Vitoria and from Arroniz to Lerin, at cost of about $506,395.

RAILWAY MATERIALS.—Siam.—Bids are wanted by Royal Siamese State Rys, Bangkok, until June 15 for supplying 30,000 tons rails, 950 tons dog spikes, 1,826 tons fish plates, 750 tons bearing plates, 270 tons bolts and nuts, 10 tons spring washers. Specifications, etc., can be obtained at the Siamese Legation in London.

GLASS FACTORY.—Japan.—Wm. Frauzen, Pres. Wm. Frauzen & Son, Inc., of Milwaukee, manufacturer of glass bottles, is contemplating establishing a glass bottle industry in Japan, and expects to form a company with $500,000 capital stock to carry out his plans. It is expected that the Japanese Government will subsidize the project.

RAILWAY.—Russia.—One of the four plans drawn up for the proposed junction line between the Siberian Ry. and the Northern Russian Ry., has finally been adopted by a Commission of the Russian Ministry of Finance. The total distance is about 800 miles. Some 636 miles of new line will be necessary, and a bridge across the Kama will be built.

RAILWAY.—Nicaragua.—Articles of incorporation of the Great Central R. R. Co. have been sent to the secretary of state of Maine, and provide for a line of railway from the head of navigation on the Coco River, in Nicaragua, to a connection with the National Ry. of Managua, with a main line through Honduras into Salvador; capital stock, $10,000,000. Thomas B. Rider, Wm. M. Rees, J. R. McCune and others of Pittsburg, Pa., are interested.

HARBOR IMPROVEMENTS.—Trinidad.—Improvements to the harbor at Port of Spain are being considered that will cost about $2,750,000. Two plans are being drawn up. One provides for a quay wall 2,500 ft. long, a basin 700 ft. wide with a depth of 24 ft., an approach channel of the same depth and two miles long, 94 acres of reclamation, extensive sheds, three miles of railway line, and an electric power house for supplying light and motive power for cranes, etc. In addition, it is proposed to give accommodation for the bunkering of steamers, and to purchase a floating dock sufficient to lift vessels of 4,000 tons light displacement.

RAILWAY.—Chili.—R. E. Mansfield, U. S. Consul, reports that a bill was passed during the last session of the Chilean Congress providing for the construction of a railway over the Andes Mountains, connecting Buenos Ayres with Santiago and Valparaiso. This road was projected about 20 years ago and had been discussed by each session of congress since. A railway extending from Buenos Ayres to the Cumbre of the Cordillera, at Uspallata Pass, to connect with the line from Valparaiso, is being constructed by the Argentine Government. The road is completed as far as Puente del Inca. The President of the Chilean Republic is empowered to contract by public tender for the Chilean end of the road. The State guarantees for the term of 20 years 5% interest on a sum not to exceed $7,299,750 for the construction of the road. The concessionaire is obliged to sell to the State when the road is finished in case the State so wills it, within a term of five years, for a sum which may not exceed the capital invested and 10% interest.

CONTRACT PRICES.

TURNPIKE.—Jersey City, N. J.—The following bids were received by the board of chosen freeholders on April 2, 1903, for paving and improving the Belleville turnpike road; (1) embankment per cu. yd.; (2) 10-in. Telford macadam, per sq. yd.; (3) bridge No. 1, complete; (4) bridge No. 2, complete:

	1.	2.	3.	4
W. A. Noonan & Co.	$0.30	$1.60	$1,800.00	$600.00
Jos T. Harrington	.65	1.10	550.00	500.00
Edward P. O'Neill	.83	1.03	200.00	200.00
James Mannix	.49	.89	400.00	400.00
Henry Waddington	.65	1.07	500.00	500.00
Robert Wright	.69	.97	450.00	350.00
Palisade Construction Co.	.62	1.87	11.00	11.00

(*)REPAIR OF PIERS.—St. Joseph, Mich.—Lieut.-Col. M. B. Adams, U. S. Engrs., Grand Rapids, Mich., received the following bids on May 6, 1903, for repairing piers in St. Joseph Harbor; (1) bid of Chicago & Great Lakes Dredge & Dock Co., Chicago, Ill.; (2) Archie J. Beauvais, Muskegon, Mich.; (3) Burk, Smith & Nelson, Muskegon, Mich.:

		1.	2.	3.
Removing old pier	464 lin. ft.	$1.50	$3.00	$3.00
Timber, fur. & pled	128,112 ft. B.M.	34.00	34.00	35.00
Decking as above	27,249 " "	33.00	32.00	33.00
Drift bolts	16,769 lbs.	.04	.04	.035
Screw bolts	550 "	.04	.04	.04
Spikes	1,195 "	.04	.04	.04
Stone	660 cords	7.50	7.00	7.50
Totals		$11,192	$11,500	$11,932

SEWER.—Cheyenne, Wyo.—W. P. Keefe, Cheyenne, received the contract for replacing 1,850 ft. of 4-in. pipe with 6-in. pipe at Fort Russell at 50 cts. per ft.

WATER-WORKS MATERIALS.—Minneapolis, Minn.—The following contracts were awarded for water-works material on May 9: U. S. Cast-Iron Pipe & Foundry Co., Chicago, 8,124 lin. ft. of 30-in. and 18,120 lin. ft. of 24-in. c.-i. pipe, $32.60 per ton f. o. b. cars; Northwestern Foundry Co., Minneapolis, 118 tons special castings, $52 per ton, delivered in trenches; James B. Clow & Sons, Chicago, 10 24-in. valves, $220; 4 30-in. valves, $425; 60 6-in. valves, $12.50; 7 8-in. valves, $19; 2 10-in. valves, $28.50; 10 12-in. valves., $34.50; 2 16-in. valves, $77, each, f. o. b. cars; R. D. Wood & Co., Philadelphia, Pa., 50 double streamer hydrants with frost jackets $37.50 each, f. o. b. Minneapolis. Ellis R. Dutton, Asst. Cy. Engr.

CANAL WORK.—Huntsville, Ala.—The contract for the Colbert shoals canal work has been let to the Sheridan-Kirk Contract. Co., Valley Head, Ky.: Concrete, $8.28 per cu. yd.; earth excavation, 50 cts.; rock excavation, $1.98; iron and steel, 7 cts. per lb.; laying masonry, $6 per yd.; riprap, $7; stone backing, $10; stone coping, $24; face stone, $10; special stone, $24; timber, $50; test holes, 60 cts.

(*)SEWERS.—Connersville, Ind.—The following bids were received by Karl L. Hanson, Cy. Engr., on May 1 for constructing combined storm and sanitary sewers; Chas. Carroll Brown, Consult. Engr., Indianapolis; totals do not include lampholes, nor 42-in. c.-i. pipe; bids were also taken on 30 and 36-in. sewer pipe, as the price was higher the bids were not considered; contract awarded to Thos. Bridge's Son; all bids for 42-in. iron pipe crossing canal are informal:

Bids Received at Connersville, Ind., May 1, 1903, for Constructing Combined Storm and Sanitary Sewers.

Quantities.		Municipal Engineering & Const'n Co., Chicago.	Thos. Bridge's Son, Wabash, Ind.	Phil. Hipskind & Sons, Wabash, Ind.	Geo. M. Cheney & Co., Indianapolis, Ind.	J. H. Green & Son, Appleton, Wis.	Elkhart Const'n Co., Elkhart, Ind.	Neal Paving Co., Hartford City, Ind.
48-in. brick lined circular, 2-ring	575 lin. ft.	$5.10	$5.25	$5.20	$5.18	$5.40	$5.77	$7.33
57x38-in. egg-shaped brick, 2-ring	2,060 " "	5.10	4.95	5.02	5.11	5.17	5.27	6.42
54x36-in. " " "	1,600 " "	4.85	4.75	4.84	4.87½	4.75	4.97	6.20
51x34-in. " " "	1,245 " "	4.64	4.60	4.65	4.64	4.00	4.87	5.64
48x32-in. " " "	335 " "	4.08	4.05	4.06	4.10	4.00	4.27	6.00
45x30-in. " " "	1,135 " "	3.90	3.85	3.92	3.92	3.80	4.17	5.65
39x26-in. " " "	1,655 " "	2.76	2.75	2.79	2.77	3.00	2.97	5.48
27-in. pipe sewer	1,615 " "	2.75	2.60	2.76	2.75	2.60	2.77	3.40
18-in. " "	1,640 " "	1.41	1.35	1.48	1.42	1.36	1.47	1.20
15-in. " "	2,600 " "	1.26	1.25	1.26	1.30	1.30	1.37	1.20
12-in. " "	5,710 " "	.95	.90	.96	.98	.90	.97	1.00
10-in. " "	6,805 " "	.80	.75	.82	.84	.80	.87	.95
8-in. " "	15,730 " "	.59	.66	.65	.67	.70	.67	.80
6-in. " "	625 " "	.50	.55	.60	.59	.46	.63	.80
4-in. pipe for house connections	8,200 " "	.40	.45	.45	.45	.40	.47	.75
Manholes	77 each	40.00	40.00	44.00	45.00	52.00	47.00	60.00
Special Manhole		85.00	74.00	88.00	87.00	80.00	87.00	100.00
Catchbasins complete	129 each	36.00	45.00	46.00	47.50	44.00	47.00	30.00
Inlets complete	12 "	25.00	28.00	19.00	22.00	18.00	27.00	20.00
Flushtank manholes	6 "	80.00	90.00	84.00	87.00	80.00	87.00	90.00
Flushtanks	5 "	70.00	65.00	68.00	72.00	80.00	77.00	90.00
Lampholes (if ordered; none specified)		12.00	10.00	14.00	15.00	15.00	17.00	12.00
42-in. iron pipe crossing canal	50 lin. ft.	.....	3.00	.....	.....	16.00	.....	8.40
Outlet masonry	5 cu. yds.	9.00	14.00	8.00	9.75	14.00	14.00	9.00
Total		$80,092	$81,372	$83,529	$84,427	$84,617	$87,925	$103,582

WATER PIPE.—Galveston, Tex.—The following bids were received by the city commissioners on April 25, 1903, for additional piping for the extension of the water-works system, the materials costing about $6,000: R. D. Wood & Co., Philadelphia, $35.45 per ton, castings 3 cts. a lb.; Dimmick Pipe Co., Birmingham, Ala., $33 and 3 cts.; M. J. Drummond & Co., New York, $35.75, $35.35 and 3 cts.; U. S. Cast-Iron Pipe & Foundry Co., New York, $33 and 3 cts.

GRADING.—Kansas City, Mo.—The county court has awarded Colyer Bros. a contract for grading the Little Blue and Raytown road for about 3½ miles at the following prices: Earth excavation, 22½ cts. per yd.; solid rock, 65 cts.; masonry, $4.50 per yd.; riprap, $2.50 per yd.; pipe, $2.52 per ft.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

PAVING.—New Haven, Conn.—For constructing a crushed stone pavement in Cedar St., between Portsea and Lamberton Sts., with Belgian block gutters, the following bids were received by the paving commission on May 4: (1) crushed stone, (2) gutters: C. W. Blakeslee & Sons, (1) 45 cts. per sq. yd., (2) $1.10 per sq. yd.; Frank Brazos, (1) 53½ cts., (2) $2.19; P. D. Pierce & Co., Bridgeport, (1) 69 cts., (2) $2.50.

REPAIR OF PIERS.—Black Lake, Mich.—Following bids were received by Lieut.-Col. M. B. Adams, U. S. Engr., on May 6, 1903, for repair of piers at Black Lake: (1) bid Robert Love & Co., Muskegon, Mich.; (2) Burk, Smith & Nelson, Muskegon, Mich.; (3) T. J. Bennett & Co., Muskegon, Mich.:

		1.	2.	3.
Removing old work	663 lin. ft..	$3.00	$3.00	$3.25
Piles	5,444 " "	.33	.33	.35
Timber	11,569 ft., B.M.	45.00	50.00	50.00
Other timber	206,806 " "	33.00	34.00	36.00
Sheet piles	219,518 " "	42.00	41.00	48.00
Decking	31,269 " "	30.00	32.00	35.00
Drift bolts	24,681 lbs....	.035	.035	.035
Screw bolts	13,264 "	.035	.04	.038
Carriage bolts	7,085 "	.035	.04	.05
Tie rods	11,039 "	.035	.04	.04
Spikes	1,658 "	.035	.04	.04
Total		$23,306	$23,579	$25,935

PAVING, ETC.—New York, N. Y.—The following bids were received April 27 for paving and improving various streets: Repaving in 134th St., lowest bidder, Continental Asphalt Paving Co., Long Island City, 13,530 sq. yds. asphalt block pavement $1.59 per sq. yd., 2,090 cu. yds. concrete $6.32, 2,550 lin. ft. new curb 95 cts., 3,000 lin. ft. old curb 25 cts., total $37,325; Improving 182d St., from Arthur Ave. to Boston Road, F. V. Smith Construction Co., 35 Mt. Morris Park, 9,200 cu. yds. earth excavation, 5,100 cu. yds. rock excavation $1.40, 30,000 cu. yds. filling 50 cts., 8,200 lin. ft. new curb 80 cts., 32,150 sq. ft. new flagging 24 cts., 5,550 sq. ft. new bridgestone 60 cts., 750 cu. yds. dry rubble masonry $2, 160 lin. ft. stone pipe $1; Improving White Plains road, from Morris Park Ave. to northern city boundary (1) bid of T. E. & T. Crimmins, 444 E. 69th St., $593,594; (2) F. Thielemann, Jr., 147 E. 125th St., $550,825; (3) Jas. Malloy & Co., 924 St., and 1st Ave., Brooklyn, $420,478:

		1.	2.	3.
Earth excavation	77,500 cu. yds.	$0.50	$0.45	$0.90
Rock excavation	147,500 " "	2.10	1.70	.90
Filling	212,500 " "	.45	.50	.30
New curbing	49,400 lin. ft..	.80	.85	.80
New flagging	170,500 sq. ft...	.28	.26	.30
New bridgestone	44,300 " "	.70	.60	.65
Dry rubble masonry	4,000 cu. yds.	2.50	1.50	3.25
Rubble masonry	200 " "	4.00	5.00	5.00
15-in. stone pipe	7,700 lin. ft..	1.00	3.00	1.50
20-in. stone pipe	2,850 " "	2.00	4.00	2.25
Inlets or catchbasins	70 each...	100.00	65.00	40.00

For improving Southern Boulevard, from East 138th St. to Boston road: (1) Continental Asphalt Paving Co., $274,708; (2) J. L. Robertson $281,548; (3) Hastings Paving Co., $263,905; (4) Cleveland Telford Paving Co., $281,726:

		1.	2.	3.	4.
Earth excavation	3,000 cu. yds.	$0.30	$0.45	$0.01	$1.00
Rock excavation	100 " "	1.50	3.00	2.50	1.00
Filling	11,500 " "	.30	.45	.10	.20
New curb	10,000 lin. ft..	.95	.99	.99	.90
Old curb	18,000 " "	.25	.30	.25	.27
New flagging	20,600 sq. ft...	.25	.25	.25	.23
Flagging relaid	2,450 " "	.04	.05	.05	.10
Bridgestone	600 " "	.50	.60	.70	.70
Old bridgstn relaid	5,500 " "	.07	.09	.05	.10
Dry rubble masonry	100 cu. yds.	1.75	2.00	2.00	3.00
Concrete	14,350 cu. yds.	6.40	5.60	6.32	5.75
Asphalt block pvmt.	96,500 sq. yds.	1.64	1.79	1.57	1.80

STONE FOR JETTY.—Portland, Ore.—Capt. W.C. Langfitt, U. S. Engr., received the following bids on April 30, 1903, for supplying stone for the Columbia bar jetty: the contract for 100,000 tons of stone will be made at once, and for the 475,000 tons within two months: Northwest Construction Co., Astoria, Ore., 91 cts. per ton; delivery by rail, quarry at Bugby Light; Columbia Contract Co., $1.25 per ton; by water, quarry at Fisher's Landing above Vancouver: Robt. Wakefield &Co., $1.33, by water, quarry at Bugby Light; R. M. Henigsen & Co., Seattle, $1.02, by rail; quarry at Bugby Light.

ROADS, WALKS AND SEWERS.—Port Townsend, Wash.—Capt. Geo. H. Penrose, Q. M., received the following bids on April 24 for constructing roads and walks and a sewer system at Fort Worden, Wash., and at Fort Casey: Fort Worden—Peter M. Coyne, Port Townsend, grading 31,340 lin. ft. at 27 cts.; surfacing 6,388 yds., 55 cts.; 8-in. sewer pipe, 1,000 ft., 55 cts. a ft.; 12-in. pipe, 60 ft., $1.20; catchbasins, 17, each $25; subdrains a ft., 25 cts.; gutters, 2,790 cu. yds., $1.20; 4-ft. sidewalks 880 ft., 27 cts.; 6-ft. sidewalk, 8,090 ft., 30 cts. total, $9,640; Sewer system complete—Peter M. Coyne, $9,640; James Lee, Tacoma, $9,797; Fort Casey—Sewer complete, E. C. McClannahan, Seattle, $17,550; A. W. Burrell, Oakland, Cal., $15,406; James Lee, $17,397; H. J. McInnis, Fort Casey, $18,195:

Quantities.		E. C. McClanahan.	A.W. Burrell.	H. J. McInnis
Grading	31,300 sq. yds.	$0.550	$0.565	$0.590
Surfacing	6,500 " "	1.35	1.40	1.52
8-in. pipe	1,050 lin. ft..	1.60	1.65	1.15
12-in. pipe		1.40	1.35	1.95
Catchbasins	15 each...	35.00	38.00	45.00
Subdrains		.50	.50	.62
Gutters	2,070 cu. yds.	1.60	1.64	1.67
4-ft. sidewalks	700 lin. ft..	.30	.35	.36
6-ft. sidewalks	5,200 " "	.37	.39	.41

INDUSTRIAL NOTES.

THE BUFFALO METER CO., Buffalo, N. Y., has removed its offices to 290 Terrace.

PATTISON BROS., Engrs., have removed their offices to the Fuller Bldg., Broadway and 23d St., New York.

THE MERRITT & CHAPMAN DERRICK & WRECKING CO., New York, has removed to the Whitehall Bldg., 17 Battery Pl.

THE RAND DRILL CO., New York, report the removal of the San Francisco office from 223 First St. to the Rialto Building.

H. BICKFORD & CO., Lakeport, N. H., have succeeded to the business of H. Bickford, manufacturer of boring and turning mills.

WOOD & CO., 545 Marquette Building, Chicago, report recent business in rebuilt flat cars to include three orders from the Pacific coast, one from Illinois, and one from Indiana.

THE THOMSON METER CO., of Brooklyn, N. Y., reports sales of 6,332 meters from Jan. 1 to April 27. This makes a grand total of 230,084, of which about 180,000 were sold in the nine years ending Dec. 31, 1902.

THE PULVERIZED COAL STOKER CO., 31 Burling Slip, New York, reports that the Ideal Fuel Co., of Brooklyn, has discontinued business, and that all communications should be addressed to the first-mentioned firm.

THE COLUMBUS STEEL ROLLING SHUTTER CO., of Columbus, O., announces that the F. P. Smith Wire & Iron Works, 100-102 Lake St., Chicago, have been appointed its sole agents in Chicago, and several other states adjacent thereto.

E. P. ROBERTS & CO., of Cleveland, O., have opened an office at 25 Broad St., New York, to be in charge of W. C. Andrews, E. E. The company is prepared to furnish estimates, etc., of electric plants, heating plants, etc.

THE LUNKENHEIMER CO., Cincinnati, report that on account of the demand for its brass and iron steam specialties, it has been compelled to increase the foundry output 50%. Machine tools of the most improved type are being installed in various departments as fast as they can be obtained.

WONHAM & MAGOR, 29 Broadway, New York, are reported to have been awarded the contract for about 4,000 tons of rails for the Manila (P. I.) St. Ry. The rails will be made by Suren Hartmann &Co., of London, Eng. J. G. White & Co., New York, secured the contract for the electrical work.

THE NATIONAL WOOD PIPE CO., Los Angeles, Cal., has just commenced work on the construction of 11,750 ft. of 24-in. continuous stave wood pipe for the Tujunga Co. at Tujunga Valley, about 20 miles from Los Angeles. The company is about to construct two parallel lines of 48-in. continuous stave wood pipe for the Riverside Power Co. near Corona.

THE POWER SPECIALTY CO., 126 Liberty St., New York, has furnished sixteen 10 ft. Sevmour fans for the cooling towers at the St. Louis Exposition through Westinghouse, Church, Kerr & Co. The combined delivery of these fans is over two million cubic feet of air per minute, requiring less than 20 HP. each to drive them. The company furnishes all the fans for the cooling towers of Henry R. Worthington and the Alberger Condenser Co.

THE PHILADELPHIA PNEUMATIC TOOL CO., Philadelphia, reports having recently furnished all the pneumatic tools for the erection of 45 steel bridges that the Southern Pacific Co. is erecting incident to the straightening of the line between Ogden, Utah and Reno. Orders for chipping hammers, riveters and drills have been received, also, from the Baldwin Locomotive Works, American Car & Foundry Co., Penna. Steel Co., Am. Bridge Co., Vulcan Iron Works, Toledo, and the L. S. & Mich. S. Ry.

THE BUREAU OF EXPERT INVESTIGATION AND CONSTRUCTION, 35 Nassau St., New York, has been organized to investigate and report on charters, franchises, patents, plans and specifications, etc., and to supervise the carrying out of contracts. The electrical and mechanical engineers connected with the bureau are H. A. Foster, P. B. Rae, G. T. Hanchett and Thorburn Reid; hydraulic engineers, G. W. Birdsall and I. H. Carpenter; civil and mining engineers, M. H. Alberger and W. A. Calhoun; chemist, Dr. Wm. McMurtrie.

THE OTIS ELEVATOR CO., New York, will remove its offices from the Empire Bldg. to the Whitehall Bldg., although the lease of the present office will not expire for some time. The company is to install eight high-pressure inverted plunger hydraulic passenger elevators in the Bessemer Bldg., Pittsburg, and in the Phipps power house adjacent thereto, the latter building supplying power to the various buildings in the neighborhood owned by Henry Phipps. These elevators are of the same type as those in the Prudential Bldg., in Newark, and those to be installed in the new Metropolitan Life Bldg. in New York.

ALLIS-CHALMERS CO., Milwaukee, reports as follows: A. Riepnel, Koenigliecher Baurat, of Nurnberg, Germany, Man. Dir. Augsburg Nurnberg Mfg. Co., builders of structural iron work, engines, cars, bridges, etc., is now visiting the U. S. for the first time. His works employ about 16,000 men and now have over 2,000 at work on the bridges, etc., of the new railroads being built by Germany in China. Their latest success has been with gas engines, both for gaseous and liquid fuel. They have long built these engines in smaller units up to 400 HP. and operated with petroleum, but for the use of waste gas as well as producer gases and in larger units, they have recently developed an entirely new design constituting the result of many years of extensive experience. Mr. Rieppel's visit to the U. S. was made to interest the Allis-Chalmers Co. in the manufacture of the products of his company, and by mutual agreement to enable each or either of them to get into closer touch with the requirements of the trade throughout the world. A contract was entered into by the two companies giving the Allis-Chalmers Co. the exclusive right to manufacture and sell the Nurnberg gas engine for this country and selling rights in many countries, especially the far east and South Africa. The Augsburg Nurnberg Mfg. Co. have within the past few months received orders for some 50,000 HP. throughout Germany and Spain chiefly for generating electric energy and for blast furnace and spinning mill work. One of these engines now being built is for a spinning mill in Northern Germany, where the engine will be operated by producer gas. Mr. Rieppel is now on a tour of inspection throughout this country, after which he will visit the new works of the Allis-Chalmers Co., at West Allis, where these engines will be built.

THE PELTON WATER WHEEL CO., San Francisco, announces that during the last four months its Pacific department has received contracts for water wheels as follows: Vancouver (B. C.) Power Co., to consist of three 3,000-HP. units. Each main unit to consist of two wheels, one to be mounted on each end of extended generator shaft; wheels to operate under a 390-ft. head and run at a speed of 200 r. p. m. The nozzles are of the improved Pelton combination deflecting and needle type, hydraulically balanced. No. Calif. Power Co., who recently installed three 1,600-HP. Pelton wheels to direct-connect to Westinghouse generators, has now given the company another order for two 3,000-HP. units to operate under a 1,150-ft. head. By means of flexible leather link couplings, power will be transmitted from both ends of each water wheel shaft to two 1,500-HP. generators, which will run at a speed of 300 r. p. m. Gwin Mine Development Co., Valley Springs, Cal., is installing a hoist with a capacity of 20,000 lbs. at a speed of 1,200 ft. per min.; power derived from two 9-ft. diameter Pelton wheels having triple nozzles which are fitted with two hydraulic hoist operating valves, one valve to control the three gates on each nozzle. This will excel the capacity of the Utica hoist, which consists of two 10-in. Pelton wheels and lifts 18,500 lbs. from a depth of 2,000 ft. at a speed of 700 ft. per min. Siskiyou Electric Power Co., Yreka, Cal., is about to install a 1,000-HP. unit, which consists of one Pelton wheel, which operates under a 689-ft. head and will direct-connect to a 750-KW. generator by means of a flexible leather link coupling. Contracts for a plant have just been let by the Pikes Peak Hydro Elec. Co., Colorado Springs, which when finished will be the highest in the Western Hemisphere, both in altitude and operating head for the wheels, effective head being 2,100 ft., and the plant will consist of three Pelton wheels each to direct-connect to one 750-KW. generator, which will run at a speed of 450 r. p. m. Other contracts have either been installed or ordered during the last three months as follows: Ia. & Mex. Mining & Milling Co., Tepsic, Mex.; Gwin Mine Dev. Co., two 6-ft. wheels for running their rock crusher plant, 300 HP., 290 ft. head, 217 r. p. m.; Brigham City (Utah) Elec. Light & Power Co., 800 HP., 280-ft. head, 300 r. p. m.; Corrigan, McKinney & Co., Concheno, Mex., 150 HP., 190-ft. head, 85 r. p. m.; Kerkhoven & Mazel, Pasir Naugka, Java, 800 HP., 36-ft. head, 76 r. p. m.; Ore Developing Co., Cascades Calumet Mfg. Co., Castle Rock, Ore., and others.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3½ x 6 ins., 6 x 9 ins., and 9 x 12 ins.)

EXPANSION BOLTS.—Isaac Church, 1521 Walnut St., Toledo, Ohio; 3 × 6 ins.; pp. 12; illustrated.

Dimensions, prices, etc., of the Church expansion bolt are given.

FIRE ARMS.—Marlin Fire Arms Co., New Haven, Conn. Paper; 3½ × 6 ins.; 4 p. folder; illustrated.

A repeating shotgun, Grade B, is very briefly announced by this folder.

HEATING BOILERS.—Herendeen Mfg. Co., Geneva, N. Y. Paper; 3¼ × 6 ins.

This flyer leaflet says that "Furman" boilers are good for house heating.

RADIATORS AND HEATERS.—Vaux & Co., 330 Ellicott Square, Buffalo, N. Y.; 3½ × 6 ins.; pp. 12; illustrated.

Size, heating capacity, prices, etc., of radiators and hot-water heaters are given.

SWITCHBOARDS.—D'Olier Engineering Co., Philadelphia, Pa. Paper; 7 × 10 ins.; pp. 8; illustrated.

The circular gives views of several large switchboard installations made by this company.

PENCILS.—Jos. Dixon Crucible Co., Jersey City, N. J. Paper; 3½ × 6 ins.; pp. 8; illustrated.

A small pamphlet devoted to lumber pencils (in various colors), soapstone crayons for metal works, and carpenters' pencils.

ROAD MACHINES.—Climax Road Machine Co., Marathon, N. Y.; 6 × 9½ ins.; pp 32; illustrated.

The Climax road machine, stone crusher, portable bin, dump wagon, scrapers, etc., are illustrated and their merits are described.

TRANSFORMERS.—Stanley Electric Mfg. Co., Pittsfield, Mass. Paper; 8 × 10½ ins.; pp. 8; illustrated.

This bulletin, No. 132, discusses several features of transformer construction and shows views of different types of transformers.

ANTI-FRICTION METAL.—A. Allen & Son, 1 Desbrosses St., New York city; 3¾ × 5 ins.; pp. 15.

This little bulletin contains a large number of commendatory letters from users of Allen's Red Anti-Friction Metal and Red Metallic Gasket Metal.

PNEUMATIC TOOLS.—Rand Drill Co., 128 Broadway, New York, N. Y. Paper; 9 × 12 ins.; pp. 4; illustrated.

In circular style a number of pneumatic tools, hammers, drills, hoists, etc., are shown here. The name "Imperial" has been selected to denote this line of tools.

CREOSOTING TIMBER.—American Creosote Works, New Orleans, La.; 6 × 8 ins.; pp. 42.

This is a very instructive pamphlet on timber preservation by means of creosote, and contains matter that should interest any engineer having to do with timber work.

FINE CRUSHERS.—Sturtevant Mill Co., Harrison Square, Boston, Mass. Paper, 6 × 8¾ ins.; pp. 4; illustrated.

The roll-jaw crushers described in this pamphlet are claimed to crush large hard rocks to a fine condition, and to be both economical and durable on severe work of this kind.

COAL MINES AND RAILROADS OF ILLINOIS AND INDIANA.—Peabody Coal Co., Chicago, Ill. Cloth; 7 × 10 ins.; pp. 54, with large wall map.

The names of coal mines, coal operators and coal railroads are given in the text, and the location shown on the map.

PAINT.—Goheen Mfg. Co., Canton, O. Paper; 6 × 3½ ins.; 10 p. folder; illustrated.

"Carbonizing Coating" is a protective paint for all kinds of steel work, while "Galvanum" is a paint for galvanized iron. Views are shown of structures painted with this company's paint.

STEAM SPECIALTIES.—Steam Carriage Boiler Co., Oswego, N. Y. Paper, 3 × 6 ins.; 16 p. folder; illustrated.

Besides a small boiler, 14 to 30 ins. diameter, this folder advertises regulating valves, steam traps, reducing valves, water columns, etc.

WATER SOFTENING AND PURIFYING APPARATUS.—Industrial Water Co., 126 Liberty St., New York city. Paper; 6 × 9 ins.; pp. 22; illustrated.

A number of plants with capacity ranging from 1,000 to 42,000 gallons per hour are illustrated, including some for manufacturing establishments and for railway water stations. There is also a view of a plant for removing oil from high pressure condensed steam at a gas works in Plainfield, N. J.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

ROLLER BEARINGS.—Standard Roller Bearing Co., Philadelphia, Pa. Paper; 6 × 3½ ins.; pp. 16; illustrated.

This small pamphlet is devoted to showing various applications of roller bearings, with cylindrical or tapered rollers, and ball bearings.

FIELD RHEOSTATS.—Cutler-Hammer Mfg. Co., Milwaukee, Wis. Paper; 5 × 8 ins.; pp. 5.

These five sheets constitute Bulletin No. 32. They list the sizes, prices, etc., of field regulators for circuits of from 75 to 500 volts pressure, and arranged to mount either on front or on back of switchboard.

HEATING BOILERS.—Jas. B. Clow & Sons, Chicago, Ill. Paper; 8 × 5 ins.; pp. 32; illustrated.

Several different styles of cast-iron boilers, both steam and hot water, are described and listed in conjunction with sectional drawings which make clear their construction. Radiators and a temperature regulator are also shown.

TOOLS.—L. S. Starrett Co., Athol, Mass. Paper; 5 × 7½ ins.; pp. 176; illustrated.

Starrett's new tool catalogue, No. 17, is much enlarged over previous issues. It covers the range of machinists' measuring tools, giving complete information about each. There is an alphabetical index and also a number index.

PAINT.—Rinald Bros., 1142 N. Hancock St., Philadelphia, Pa. Paper; 6 × 9 ins.; pp. 7.

Three separate cases where "Bessemer" paint for structural steel work was used with very good results are here recited. The letters and reports reproduced indicate that this paint lasted unusually long under unfavorable conditions.

ENGINEERING EMPLOYMENT. — The Engineering Agency, Monadnock Block, Chicago. Paper, 3¼ × 5 ins.; pp. 8.

This pamphlet outlines the advantages offered by the agency in finding situations for men, and men for situations, and in acting as a medium between good men and good places.

PNEUMATIC TOOLS—Chicago Pneumatic Tool Co., Fisher Bldg., Chicago, Ill. Paper; 6 × 9 ins.; pp. 14 and 14; illustrated.

One of these is a catalogue of "Boyer" pneumatic hammers, and covers also compression riveters, holder-ons, etc. The other pamphlet similarly describes and illustrates "Boyer" piston air drills and accessories.

REELS AND TAPES.—Robert Johnston, 12 North Main St., Wilkes-Barre, Pa.; 3½ × 6 ins.; pp. 14; illustrated.

The cuts show a novel reel with spring arms and rollers for holding the tape in position no matter how much or how little tape may be wound around the reel. A long list of users of this reel and tape is given at the end of the pamphlet.

ELECTRIC FANS.—Westinghouse Electric & Mfg. Co., Pittsburg, Pa. Paper; 5 × 8 ins.; illustrated.

This company makes alternating as well as direct-current fans; the present booklet shows a number of views illustrating many ways in which electric fans may be used to bring comfort. Several different styles and sizes of fans are listed, with data as to speed, power, etc.

ELECTRIC PLANTS.—Stone & Webster, Boston, Mass. Leather; 5 × 7½ ins.; pp. 46; illustrated.

This is a summary of the electric railway and lighting plants managed by the engineering firm of Stone & Webster. Each plant is illustrated by a map showing the area served or the line of the railway, and different statistical data bearing on financial matters of the different plants are given.

ELECTRIC FANS.—General Electric Co., Schenectady, N. Y. Paper; 5 × 8 ins.; pp. 56; illustrated.

Simple description and listing of direct and alternating-current fans is worked up with illustrations and decorative designs into a very elaborate and ornate fan catalogue. Both types of fan are made in 12 and 16-in. sizes. The wall-bracket fan with spring suspension is something of a novelty.

ELECTRICAL APPARATUS.—Westinghouse Electric & Mfg. Co., Pittsburg, Pa. Paper; 6 × 9 ins.; two pamphlets; pp. 21 and 7; illustrated.

These are supplements to the detail catalogue No. 300. The larger pamphlet is a descriptive catalogue and price-list of oil switches and circuit breakers, while the smaller one relates to diverters of the ventilated cell and grid types for street railway equipments.

PHOTO-PRINTING MACHINE.—Keystone Blue Paper Co., 910 Filbert St., Philadelphia, Pa. Paper; 6 × 9 ins.; pp. 4; illustrated.

The "Keystone" machine contains an enclosed arc lamp, around which are eight printing frames, each 11 × 14 ins., for printing on photographic paper, blue print paper, engravers' zinc plates, etc. The machine is claimed to print three times as fast as bright June sunlight.

ASSAYERS' APPLIANCES.—F. W. Braun Co., 501 to 505 North Main St., Los Angeles, Cal.; 6 × 9 ins.; pp. 100; illustrated.

A variety of small hand and power-operated crushers and mullers are shown, their capacities and list prices being given. Power samplers, furnaces of many types, hydrocarbon blow-pipes, cupel machines, Braun's automatic blow-pipe, etc., are described and shown in cuts.

MACHINE TOOLS.—Niles-Bement-Pond Co., New York, N. Y. Paper; 9 × 12 ins.; pp. 47 and 47; illustrated.

The first of these two catalogues covers multiple drills, of which many styles and sizes are shown. The machines are of two general kinds, multiple drills and multi-spindle adjustable drills; the former have a row of drilling spindles arranged in a line and adjustable only in that line, while the spindles of the latter can be arranged in any desired group within the capacity of the machine. The second catalogue is devoted to horizontal-spindle boring machines, suited for a large range of work in boring, drilling and milling. They have either fixed or movable columns mounted on a bed plate. One machine shown is driven by an electric motor.

CONCRETE-STEEL CONSTRUCTION.—Turner Construction Co., 11 Broadway, New York, N. Y. Paper; 6½ × 9½ ins.; pp. 56; illustrated.

A glance through this booklet will show that concrete-steel work may be applied in a great variety of ways even for very aesthetic effects. Various opinions and facts on corrosion of iron in concrete and the fireproof quality of concrete-steel structures, and several logs of load tests, are given in connection with the views. The Ransome system is used by this company.

PURE WATER FOR PUBLIC INSTITUTIONS. Asylums, Baths, Clubs, Hotels, Office Buildings, Residences, etc. The New York Continental Jewell Filtration Co., 15 Broad St., New York City. Paper; 3 × 6 ins.; pp. 40; illustrated.

Besides describing the mechanical filters made by this company for the class of service indicated by the title, the pamphlet contains a long list of users, and many pages of testimonials. It will surprise some people to read, on p. 3, that germs of malaria are removed by coagulation.

WATER-TUBE BOILERS.—Abendroth & Root Mfg. Co., 99 John St., New York. Paper; 6½ × 3½ ins.; pp. 10 and 12; illustrated.

In addition to a brief illustrated description of the "Root" water-tube boiler, the first pamphlet presents a number of testimonials as to service results from the boiler. The second pamphlet shows and talks about spiral riveted pipe, straight riveted pipe, hydraulic giants, exhaust heads, and some other specialties. An accompanying flyer shows a bilge pump made of spiral riveted pipe.

CRANES AND HOISTS.—Pawling & Harnischfeger, Milwaukee, Wis. Paper; 4½ × 3 ins.; folder.

A striking method of advertising has been adopted in this case. The folder is a list of users of cranes or hoists made by this company. The list is alphabetically arranged, and the number, sizes, classes of service and types of the cranes sold to each user is given. The list is printed on a single continuous strip, and the number of users may be judged from the fact that this strip is about 18 ft. long when unfolded. Many foreign concerns appear on the list.

BRICK CHIMNEYS.—H. R. Heinicke, 160 Fifth Ave., New York, N. Y. Paper; 5½ × 8½ ins.; pp. 32; illustrated.

Radial bricks with vertical perforations are considered to have many merits for building chimneys. The tallest chimney in the world, 460 ft. high, built for the Royal Saxony Smelting Works, at Halsbrucke, Germany, is made of such bricks. Several views of this chimney, in construction and completed, show it to be a handsome, well-proportioned structure. Its builder has already erected a number of chimneys in America.

HOISTING ENGINES AND CABLEWAYS.—Lambert Hoisting Engine Co., Newark, N. J.; 4½ × 7 ins.; pp. 36; illustrated.

Cableways, derricks, tubs, engines, etc., are illustrated and briefly described. The Lambert log skidder, the special mine hoist and electric mine hoists are special engines of apparent merit. The Lambert patent swinging gear for rotating a derrick boom by means of a bull-wheel is a commendable money-saving device. It is designed so as to swing the derrick at a given speed regardless of the speed of the hoisting drum, and can be attached to any make of hoisting engine.

ELECTRICAL MACHINERY AND APPLIANCES.—Ft. Wayne Electric Works, Ft. Wayne, Ind. Paper; 4½ × 7 ins., 5 × 8 ins., and 8 × 10½ ins.; illustrated.

Recent publications of the Ft. Wayne Electric Works include: Bulletins 1,039 to 1,041, which describe and illustrate respectively small direct-current generators (in sizes ¼ to 30 KW.), motor-starting rheostats for small direct-current motors of different voltages, and direct-current motors 25 to 100 HP.; a 15-page pamphlet entitled "Perfection in Transformer Insulation," which describes the method used by this company; and Flyers 4,043 and 4,044, which show a commutator-truing device and the "Wood" fan motors, including an automatically revolving fan of the suspended or ceiling type.

CREO-RESINATE WOOD PAVEMENTS FOR STREETS AND BRIDGES.—By F. A. Kummer, Jun. Am. Soc. C. E. United States Wood Preserving Co., 29 Broadway, New York City. Cloth; 5 × 8 ins.; pp. 42; illustrated.

This neat volume consists of papers read before societies, specifications for wood block pavements, and other material relating directly and indirectly to creo-resinate wood block pavements. It presents in handy form much information which city engineers, street superintendents and others wish to know about this kind of pavement.

YARD HYDRANTS.—Chapman Valve Mfg. Co., Indian Orchard, Mass. Circular sheet; 8 × 5 ins.; illustrated.

This is a brief description of a screw valve yard hydrant, provided with the Chapman automatic drip valve.

SLUICE VALVES AND OPERATING MECHANISM.—Coffin Valve Co., Neponset, Boston, Mass. Stiff paper; 6 × 9 ins.; pp. 82; tables and illustrations.

Engineers and contractors may add this catalogue to their libraries with pleasure and profit. It opens with a brief note on the sluice valve in general, then shows the various methods of installing rectangular valves, or connecting them with a wall or pipe. Various kinds of valves, with ball bearing standards, are next taken up. There is a separate section on motor standards and electric motors; and a valve operated by a hydraulic cylinder is shown. Gratings, ladders, and other accessories are also included. Then comes a section on the principal dimensions of Coffin sluice valves, shown by means of diagrams and tables. Finally, there are "Tables and Diagrams Giving the Discharge Through Coffin Sluice Valves, with Explanations and Examples of Use," computed by Freeman C. Coffin, M. Am. Soc. C. E., Boston, Mass.

GOLD DREDGING.—By Henry S Bunting and Edward Asmus. Chicago, Ill.: 632, 110 La Salle St.; 5½ × 8 ins.; pp. 72; illustrated.

From the various technical and daily papers the authors have gathered much that pertains to gold dredging and the profits so be derived therefrom; and any one interested in the subject will find this pamphlet of interest and of value.

A 20TH CENTURY INTERURBAN ELECTRIC RAILWAY SYSTEM.—By T. S. Moss and Comr. Baker. 4 × 8 ins.; pp. 75. Address Columbus, London & Springfield Ry. Co., Columbus, Ohio.

This little pamphlet describes in a general way the system of street and interurban railways built in Ohio under the direction of A. E. Applegard, of Columbus. The system includes the line of eight different railway companies. While the pamphlet is issued primarily for advertising, it is of interest as showing the extent to which the electric railway is now competing with the steam roads in some sections of the country.

ELECTRICAL MACHINERY AND APPLIANCES.—General Electric Co., Schenectady, N. Y. Paper; 3½ × 6½, 5 × 8, and 8 × 10½ ins.

This is the latest addition to the serial catalogues published by this company. The large pamphlets, or bulletins, are: No. 4,315, describes Thomson astatic voltmeters and ammeters, in which the absence of springs and the substitution of separately excited electromagnets for permanent magnets are said to be valuable features; and No. 4,317, which describes a motor-driven air compressor for the brake system of electric cars. The supply catalogues and price-lists are: No. 7,573, on Parts of A. C. Enclosed Arc Lamps; 7,574, on Parts of C-6 Controller; 7,575, on Parts of Type B Series-Parallel Controllers, and 7,576, on Railway Line Material. The small sheets are Price-Lists 5,107, on Parts of D.-C. Enclosed Arc Lamps, and 5,108, on Fan Motors. A special booklet entitled "Permanence of Transformer Insulation" accompanies these. It points out some necessary qualities in transformer insulation and describes the method used at the company's works for securing these qualities.

NOTICE TO OUR READERS.—Although every effort is made to verify the reports of new construction before their publication in the Supplement, complete verification is not always possible. When it becomes necessary to publish news whose accuracy has not been verified, the words "according to reports," "it is stated," or other expressions of similar import are attached to the item. We will be obliged to our readers if they will send us prompt reports of any work in which they may be interested, and also to call our attention to any important errors that may be noticed in these columns, and give us the correct details. When writing to persons and companies mentioned in this department, our readers will confer a favor by mentioning Engineering News as the source of their information.

Mail Delivery Notice.

The first pages of Engineering News go to press on Monday each week, and the last pages, including "Wants," "Proposals" and "For Sale" cards about Wednesday noon. All papers for Boston, Philadelphia, and Greater New York should be received Thursday morning. All places East of the Mississippi should be reached by Friday afternoon.

If your paper is not received promptly, make a complaint in writing to your local post-office officials. This will cause an investigation, and the complaint will finally reach the office where the delay occurs.

IMPROVEMENT OF DELAWARE RIVER.—U. S. Engineer Office, Philadelphia, Pa., April 21, 1903.—Sealed proposals for removing rock and overlying and adjacent material in Delaware River at Schooner Ledge will be received here until 12 o'clock noon, May 22, 1903, and then publicly opened. Information furnished on application. C. W. RAYMOND, Lieut.-Col., Engrs. 17-4t

U. S. ENGINEER OFFICE, Rock Island, Ill., April 27, 1903.—Sealed proposals for construction and repair of Dams and Shore Protections between Bellevue and Le Claire, Ia., between Rock Island, Ill., and Burlington, Ia., and between Burlington, Ia., and Hannibal, Mo., will be received here until 11 a. m., May 27, 1903, and then publicly opened. Information on application. JAS. L. LUSK, Major, Engrs. 18-4t

For Proposals see pages XXXI., XXXII., of Advertisements and pages 276, 277 of Supplement.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

WATER SUPPLY.

Office of the Clerk of the Town of North Hempstead, N. Y., Roslyn, N. Y., May 5, 1903.

Sealed proposals will be received by the Town Board of the Town of North Hempstead, N. Y., at the Town Clerk's Office, Roslyn, N. Y., on or before Monday, May 18, 1903, at 3 o'clock p. m., for the furnishing of a water supply for fire purposes to the "Great Neck Water Supply District," and to the "Port Washington Water Supply District" in said town.

In the "Great Neck Water Supply District" forty (40) 4-inch nozzle regulation fire hydrants will be required, covering a distance of about 24,000 ft. on the public highways.

In the "Port Washington Water Supply District" forty (40) 4-inch nozzle regulation fire hydrants will be required, covering a distance of about 23,000 ft. on the public highways.

The successful bidder for each district will be required to furnish a satisfactory bond to maintain a pressure of 60 lbs. to the square inch at each and every hydrant, and the contract will be let for a period of five years. All bids must be accompanied by a certified check for two hundred dollars ($200) drawn to the order of "The Supervisor of the Town of North Hempstead," or cash to the same amount. The certified checks or cash of the unsuccessful bidders will be returned upon the awarding of the contract or contracts, and those of the successful bidder upon the signing of contract and filing of bond.

Bids must be enclosed in separate sealed envelopes and endorsed as follows: "Bid for Water Supply for Great Water Supply District," "Bid for Water Supply for Port Washington Water Supply District."

Maps of the respective districts showing pipe lines and any further information may be obtained at the office of the Town Clerk, Roslyn, N. Y., between the hours of 9 a.m. and 5 p.m.

The right is reserved to reject any and all bids.

MONROE S. WOOD,
20-1t Town Clerk.

HIGHWAY BRIDGE.

Terre Haute, Ind., May 6, 1903.

Notice is hereby given that the Board of Commissioners of Vigo county, Indiana, has caused to be prepared and placed on file in the office of the Auditor of said county, at the Court House, Terre Haute, Ind., complete and detailed specifications including full and complete drawings for the replacing of the Wabash Ave. highway bridge across the Wabash River at Terre Haute, Ind., with new substructure, superstructure and approaches, and that sealed bids for said undertaking will be received by the Board of Commissioners of said county until 11 o'clock a. m., Wednesday, the 10th day of June, 1903.

GENERAL DATA.

Six spans, 120 ft. each;
One span, 75 ft.;
Plan No. 1, roadway, 36 ft. in the clear; brick pavements;
Plan No. 2, roadway, 50 ft. in clear; brick pavement;
Walks, two 8 ft. in clear; cement.

Bids will be received upon the substructure and superstructure separately, and bids will also be received on the whole work.

Notice is hereby further given that proper forms, blanks and bonds, as required by law, can be obtained and the plans and specifications can be examined at the office of the Auditor of Vigo county, Terre Haute, Ind., and bids, bonds and matters therein must conform strictly to the provisions of the law of the State of Indiana.

A bond in the sum of thirty thousand dollars must accompany each bid for substructure, and a bond for seventy thousand dollars must accompany each bid for superstructure; a bond for one hundred thousand dollars must accompany each bid for the whole work.

Each bid for substructure must be accompanied with a certified check for three thousand dollars, each bid for superstructure by a certified check for seven thousand dollars, and each bid for the whole work by a certified check for ten thousand dollars.

The certified check must be on a National Bank, payable to the order of the Board of Commissioners of the County of Vigo, without any conditions whatever endorsed thereon.

Said checks and the amount named therein to become forfeit to and be the property of Vigo County should the bidder awarded the contract fail to enter promptly into contract or fail to carry forward and complete all agreements and conditions therein stipulated.

The right is reserved to reject any and all bids.

W. P. BOATMAN,
JEREMIAH BLOCKSOME,
W. P. HOLMES,
Board of Commissioners of Vigo Co.

Attest:
F. E. BENJAMIN, Auditor. 20-2t

SEWERAGE SYSTEM.

NOTICE TO CONTRACTORS.

Lestershire, N. Y.

Sealed proposals will be received by the Board of Trustees of the Village of Lestershire, N. Y., until 12 o'clock noon, on 1st day of June, 1903, for the construction of nine and one-quarter miles of Pipe Sewers with manholes, lampholes and other accessories, including all material, tools and labor necessary to complete the same.

Bids will be received for the whole work only.

Plans can be seen and specifications obtained at the office of the Board in the Village Hall after publication of this notice.

The Board of Trustees hereby reserves the right to reject any or all bids or to accept any that in their judgment will be for the best interests of the Village.

Bonds satisfactory to the Board in amount and sureties will be required of those to whom the contract may be awarded. The sureties shall be residents of the State of New York, or a surety company organized under the laws of and doing business in the State of New York—the latter preferred. Each bidder will be required to state in his proposal the names and addresses of his bondsmen.

Cash or a certified check made payable to the order of the Board of Trustees of Lestershire, N. Y., to the amount of $500 must be deposited by each bidder and accompany his bid as a guarantee that in case any contract is awarded him, he will, within seven days after notification of award, execute said contract.

Bids must be sealed and addressed to the Clerk of the Board of Trustees, Lestershire, N. Y., and marked on the ouside of the envelope enclosing them, "Proposals for Lestershire Sewers." (Signed)

J. F. CHAMBERS, President.
JOHN SCHULTE,
GEO H. REYNOLDS,
WATSON H. BIRDSALL,
W. M. STALKER,
H. J. ANDERSON,
CHAS. E. MARSHALL,
J. E. HILL, Village Clerk. Trustees.
KNIGHT & HOPKINS, Engrs., Rome, N.Y.
20-2t

STONE DOCK.

New Rochelle, N.Y., May 8, 1903.

Sealed proposals will be received by the City Clerk at his office in the City Hall Building, corner Main and Mechanic Sts., up to 8 o'clock p.m., Tuesday, May 19, 1903, for the construction of a Stone Dock in Hudson Park, in the City of New Rochelle, N. Y. Contractors will be required to furnish a bond in the penal sum of $5,000, to insure the faithful performance of the work. A certified check for the sum of $500, payable to the City Treasurer, of the City of New Rochelle, N.Y., must accompany each proposal which will be returned to the unsuccessful bidders within three days after the contract is awarded; the check of the successful bidder to be retained until the contract and bond has been executed, accepted and approved.

Plans, profiles and specifications can be obtained from the City Engineer at his office in the City Hall on and after April 21, 1903.

The Common Council reserves the right to reject any or all bids.

All bids to be addressed to Charles Kammermeyer, City Clerk, and marked as such.

By order of the Common Council of the City of New Rochelle, N. Y.

CHARLES KAMMERMEYER,
20-1t City Clerk.

ELECTRIC LIGHTING.

Lebanon, Pa.

NOTICE.—Sealed bids or proposals for Electric Street Lighting of the City of Lebanon, Pa., will be received by I. L. Beckley, City Clerk, till Monday, June 1st, 1903, 12 o'clock m., for furnishing said City with not less than 135 open or closed Arc Lights, and not less than 50 Incandescent Lights, to burn from twilight to dawn, and to be located as directed by the Police Committee. All bids or proposals to be contingent upon separate contracts for one (1) year, for five (5) years, and for ten (10) years, as per specifications and the price per lamp per year to be made accordingly. The right to reject any or all bids is reserved by the Police Committee.

G. W. SEIBERT, Chairman.
Attest: I. L. BECKLEY, City Clerk. 20-2t

OFFICE OF THE COMMISSIONERS, D. C., Washington, D. C., May 9, 1903.—Sealed proposals wil be received at this office until 12 o'clock noon, May 23d, 1903, for furnishing twenty (20) inch cast-iron Water Pipe. Specifications and blank forms of proposal may be obtained at this office. HENRY B. F. MACFARLAND, HENRY L. WEST, JOHN BIDDLE, Commissioners, D. C. 20-1t

PIPE SEWERS.

Sunderland, Mass.

Sealed proposals will be received at the office of the Board of Selectmen in the Town of Sunderland until 2 o'clock p.m., on the 27th day of May, 1903, for constructing sewers in Main and Bridge Sts., in the Town of Sunderland.

The work consists of about 6,500 lin. ft. of 10 to 18-in pipe sewer with manholes, street inlets, etc.

Forms of proposals, copies of the specifications and instructions to contractors may be obtained of the Board; and the plans and profiles may be seen at their office.

Each bid must be accompanied by a deposit of $500 as a guarantee of the good faith of the bidder.

The Board reserves the right to reject any or all bids. Address

W. L. HUBBARD,
Clerk of Board, Sunderland, Mass.
J. E. OSTRANDER, Engineer. 20-2t

BRICK PAVING.

North Adams, Mass., May 11, 1903.

Sealed proposals, marked "Proposals for Paving" will be received by the Commisioner of Public Works of the City of North Adams, Mass., until noon of Thursday, May 21, 1903, for paving a portion of Union St. with vitrified brick and granite or Medina sandstone, and setting about 1,500 ft. of granite curb; following are approximate quantities:

Brick Paving about 4,000 sq. yds.
Granite or Medina sandstone, about 1,500 sq. yds.
Granite curb, about 1,500 lin. ft., curb to be furnished by the city.

Bids will be received per square yard and the right is reserved to reject any or all bids.

Plans and specifications may be seen at the office of the City Engineer. All bids to be accompanied by certified check for $500, made payable to the City Treasurer of North Adams, as a guaranty that the bidder will enter into contract within five days if same is awarded. J. L. TEMPLE,
20-1t Commissioner of Public Works.

STREET CARS WANTED.

The undersigned wishes to purchase, for cash, six motor cars, not less than 45 ft. in length, double trucks, with or without motor equipment, in good serviceable condition and thoroughly up-to-date. State price on board cars or steamship at place of delivery. Full description of cars with photographs of same required. Address MASON & ELWES,
20-2t Jacksonville, Fla.

RAILWAY WORK.

Columbus, O., May 9, 1903.

The Scioto Valley Pool will receive bids at their office, 42 Board of Trade Bldg., Columbus, O., until noon of Tuesday, June 2d, 1903, for the Grading and Masonry for an Extension of their line, a distance of 9 miles, from Circleville to Kingston.

Plans, profiles and specifications are now on file in the office of the Company.

J. C. HOOVEN,
Pres. Board of Trustees.
A. W. JONES, Chief Engr. and Gen. Mgr. 20-2t

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Tompkinsville, N. Y., until 1 o'clock p.m., Monday, May 25, 1903, and then opened, for extending and repairing the wharf at the New London Light-House Depot, New London, Conn., in accordance with specifications, copies of which with blank proposals and other information may be had upon application. The right is reserved to reject any or all bids, and to waive any defects. Maj. WILLIAM T. ROSSELL, U. S. A., Engineer Third Light-House District. 20-2t

U. S. ENGINEER OFFICE, Army Building, New York, May 11, 1903.—Sealed proposals for building a Pile Dock at Sandy Hook, New Jersey, will be received here until 12 m., June 10, 1903, and then publicly opened. Information on application. W. L. MARSHALL, Major, Engrs. 20-4t

OFFICE OF THE COMMISSIONERS, D. C., Washington, D. C., May 9, 1903.—Sealed proposals will be received at this office until 12 o'clock m., June 20th, 1903, for constructing Sewers in the District of Columbia. Specifications and blank forms of proposals may be obtained at this office. The right is reserved to reject any and all bids or parts of bids. HENRY B. F. MACFARLAND, HENRY L. WEST, JOHN BIDDLE, Commissioners, D. C. 20-5t

U. S. ENGINEER OFFICE, St. Augustine, Fla., May 9, 1903.—Sealed proposals for constructing Training Walls in St. John's River, Fla., will be received at U. S. Engineer Office, Jacksonville, Fla., until noon, June 9, 1903, and then publicly opened. Information furnished on application. FRANCIS R. SHUNK, Capt., Engrs. 20-4t

OFFICE OF THE COMMISSIONERS, D. C., Washington, May 9, 1903.—Sealed proposals will be received at this office until 12 o'clock m., June 6, 1903, for furnishing 5-ft. diameter Cast-Iron Pipe, Specials and Flexible Joints. Forms, specifications and necessary information may be obtained at this office. HENRY B. F. MACFARLAND, HENRY L. WEST, JOHN BIDDLE, Commissioners, D. C. 20-3t

SEWERAGE SYSTEM.

Fair Haven, Vt., May 5, 1903.

Sealed proposals will be received by the Sewer Commissioners of the Village of Fair Haven, Vt., for the furnishing of all materials in, and the construction of, a System of Sewers, in said Village, in accordance with plans and specifications prepared by H. M. Geer, C. E., Ballston Spa, N. Y.

All bids shall be addressed to the "Secretary of the Sewer Commission," of the Village of Fair Haven, Vt., and shall be presented in time to be publicly opened at a meeting of said Commissioners, to be held at their office, in said Village, at 1:30 o'clock in the afternoon, on Friday, the 22d day of May, 1903.

Printed copies of the specifications and proposal may be obtained upon application to the undersigned.

The right is reserved to reject any or all proposals. FRANK R. ALLEN,
Secretary of Sewer Commission.
19-2t Fair Haven, Vt.

SEWERS.

Cuba, N. Y.

The Village of Cuba will receive bids, for the construction of Sewers, until June 1, 1903. Write H. P. MORGAN, Village Clerk, for further information. 20-1t

SEA-GOING SUCTION DREDGES FOR NEW YORK HARBOR.—U.S. Engineer Office, Philadelphia, Pa., May 14, 1903.—Sealed proposals for constructing two large steel, twin-screwed, Suction Dredges, will be received at this office until 12 o'clock noon, June 30, 1903, and then publicly opened. Proposals for constructing both dredges or one will be received. Information furnished on application. J. C. SANFORD, Capt., Engrs. 20-2t 24-2t

OFFICE WASHINGTON AQUEDUCT, 2728 Pennsylvania Ave., Washington, D. C., April 22, 1903.—Sealed proposals for Venturi meters, sluice gates and gate valves, special castings, pumping engines, boilers, stokers and economizers, will be received here until 12 m., May 22, 1903, and then publicly opened. Information on application. A. M. MILLER, Lieut.-Col., Engrs. 17-2t 20-2t

FORT TOTTEN, N. Y., April 20, 1903.—Sealed proposals, in triplicate, for Grading and for Constructing Roads and Sidewalks here will be received until 2 p. m. May 18, 1903. Information furnished upon application. U. S. reserves right to reject or accept any or all proposals, or any part thereof. Envelopes containing proposals should be endorsed "Proposals for Grading and for Constructing Roads and Sidewalks," addressed C. K. MOWER, 1st Lieut., Q. M. 18-3t

FORT SLOCUM, N. Y.—Sealed proposals, in triplicate, for taking up and relaying Brick Walks here will be received until 11 a. m., May 25, 1903. U. S. reserves the right to reject or accept any or all proposals. Information furnished on application. Envelopes to be marked "Proposals for Brick Walks," addressed EDWARD T. DONNELLY, 1st Lieut., Artillery Corps, Q. M. 20-1t

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Mobile, Ala., until 12 o'clock m., May 30, 1903, and then opened for furnishing all materials and labor necessary for constructing and erecting Beacons at East Pascagoula and East Pearl Rivers, Miss, and at Punta Rassa, Fla., in accordance with specifications, copies of which, with blank proposals and other information, may be had on application to Capt. WILLIAM E. CRAIGHILL, U. S. A., Engineer 7th and 8th Light-House Districts. 19-4t

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Mobile, Ala., until 12 o'clock m., May 30, 1903, and then opened for furnishing all materials and labor necessary for Protecting Ship Island Light Station, Miss., and Pass Manchac Light Station, La., in accordance with specifications, copies of which, with blank proposals and other information, may be obtained on application to Capt. WILLIAM E. CRAIGHILL, U. S. A., Engineer 8th Light-House Dist. 19-4t

U. S. ENGINEER OFFICE, Duluth, Minn., April 29, 1903.—Sealed proposals for furnishing 43,000 cu.yds. broken stone, or 43,000 cu. yds. pebbles for Concrete South Pier at Superior Entry, Wis., will be received here until noon May 29, 1903, and then publicly opened. Information on application. D. D. GAILLARD, Capt., Engrs. 19-3t

U. S. ENGINEER OFFICE, Milwaukee, Wis., May 4, 1903.—Sealed proposals for building Pile Revetment at Two Rivers Harbor, Wis., will be received here until 3 o'clock p.m., June 3, 1903, and then publicly opened. Information furnished on application. J. G. WARREN, Major, Engrs. 19-4t

U. S. ENGINEER OFFICE, Wheeling, W. Va., April 22, 1903.—Sealed proposals for furnishing and delivering irons for Lock for Dam No. 18, Ohio River, will be received here until 11 a. m. (Eastern time), May 21, 1903, and then publicly opened. Information furnished on application. GEO. A. ZINN, Major, Engrs. 17-4t

U. S. ENGINEER OFFICE, Custom House, New Orleans, La., April 30, 1903.—Sealed proposals for improving the Southwest Pass of the Mississippi River will be received here until 12 o'clock noon, June 30, 1903, and then publicly opened. Information furnished on application. H. M. ADAMS, Lieut.-Col., Engrs. 19-2t 25-2t

U. S. ENGINEER OFFICE, Pittsburg, Pa., April 23, 1903.—Sealed proposals for building and erecting in place Two Steel Lock Gates at Lock Six, Ohio River, Merrill, Pa., will be received at this office until 12 m., May 13, 1903, and then publicly opened. Information furnished on application. WM. L. SIBERT, Capt., Engrs. 18-3t

ADVERTISERS' CLASSIFIED DIRECTORY.

CONTINUED ON PAGE 159.

Agencies.
Moore, J D, 45 Liberty st, New York

Air Brakes.
Westinghouse Air Brake Co, Pittsburg, Pa

Air Compressors.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Air Compressor Wks, 26 Cortlandt st, N Y
American Well Works, Aurora, Ill
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 212-17 Herman bldg, Milwaukee
Clayton Air Compressor Works, 114 Liberty st, N Y
d'Auria Pumping Engine Co, Drexel bldg, Phila
Fairbanks, Morse & Co, Chicago
General Pneumatic Tool Co, Montour Fal's, N Y
Gray-Blaisdell Co, Bradford, Pa
Guild & Garrison, So 10th st, Brooklyn, N Y
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati O
McGowan, John H, Co, Cincinnati, O
McKiernan Drill Co, 170 Liberty st, N Y
Norwalk Iron Works, So. Norwalk, Conn
Rand Drill Co, 128 Broadway, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa

Air Drill.
Columbus Pneumatic Tool Co, Columbus, Ohio

Air Hose Couplers
Clark Co, W J, Salem, Ohio

Aluminum.
Pittsburg Reduction Co, Pittsburg, Pa

Annealing Boxes.
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg, Pa

Artesian Wells.
Bacon Air Lift Co, 100 Broadway, New York
Cole Bros, 102 Fulton st, New York
Conlan, P H & J, Newark, N J
Cook Well Co, St. Louis, Mo.
Gregory, Elisha, 128 Liberty st, New York
Phillips & Worthington, 11 Broadway, New York
Stothoff Bros, Flemington, N J
Williams Bros, Ithaca, N Y

Artesian Well Tools and Supplies.
Star Drilling Mach Co, 104 Fulton st, New York

Asphalt.
Commercial Asphalt Co, 11 Broadway, New York
Sicilian Asphalt Paving Co, Times bldg, New York
Warren Bros Co, 93 Federal st, Boston

Asphalt Machinery.
Cummer, F D. & Sons, Cleveland, O.
Erie Machine Shops, Erie, Pa
Iroquois Iron Works, Buffalo, N Y

Batteries (Storage).
Coho & Co, H B, 114 Liberty st, New York

Bearings (Ball and Roller.)
Ball Bearing Co, 2322 Market st, Philadelphia
Bantam Mfg Co, Bantam, Conn
Standard Roller Bearing Co, Philadelphia

Balances. (Assay and Analytical.)
Ainsworth, Wm. & Sons, Denver, Colo

Belt Dressing.
Dixon, Jos., Crucible Co. Jersey City, N J
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Canvas.)
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Chain)
Aultman Co, Canton, O
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Philadelphia

Belting (Leather)
Graton & Knight Mfg. Co, Worcester, Mass

Belt Lacing. (Steel.)
Bristol Co, Waterbury, Conn

Blast Furnaces.
Girard Boiler & Mfg Co, Girard, O
Means & Fulton Iron Works, Birmingham, Ala
Riter-Conley Mfg. Co, 55 Water st, Pittsburg, Pa

Blocks and Sheaves.
American Hoist & Derrick Co, St Paul, Minn
Boston & Lockport Blk. Co, 160 Commercial st, Boston
Hunt, C W Co, Richm'd Terrace, W N Brighton, S I
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
Yale & Towne Mfg Co, 9-13 Murray st, New York

Blowers.
American Blower Co, Detroit, Mich
Boston Blower Co, Business st, Hyde Park, Mass
Buffalo Forge Co, Buffalo, N Y
Mass. Fan Co, Waltham Mass
Roots, P H & F M Co, Connersville, Ind
Sturtevant, B F Co, Boston, Mass

Blue Printing Apparatus.
Elliott Electric Blue Print Co, Pittsburg.
Emerson Mfg. Co, F W, Rochester, N Y
Keuffel & Esser Co, 127 Fulton st, New York
Pittsburg Blue Print Co, 1505-C Park bldg, Pittsburg
Soltmann, E G, 123 E 42d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston

Blue Print Paper.
Elliott Electric Blue Print Co, Pittsburg
Keuffel & Esser, 127 Fulton st, New York
Soltman, E.G, 123 E 42d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston
(see also Instruments, Engineering, etc.)

Boiler Supplies.
Glasgow Iron Co, Pottstown, Pa

Boilers.
Allis-Chalmers Co, Home Ins bldg, Chicago
Bacon, Earle C, 26 Cortlandt st, New York
Columbiana Boiler Works, Columbiana, Ohio
Du Bois Iron Works, Du Bois, Pa
Enterprise Boiler Co, Youngstown, O
Fairbanks, Morse & Co Chicago
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Works, East Boston, Mass
Iroquois Iron Works, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego, N Y
Leffel, Jas. & Co, Springfield, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Morris Machine Works, Baldwinsville, N Y
McNeil, Jas. & Bro, 29th & Railroad sts, Pittsburg
Means & Fulton Iron Works, Birmingham, Ala
Mundy, J S, Newark, N J
Petroleum Iron Wks Co, Washington, Pa
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Sharon Boiler Works, Sharon, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Variety Iron Works Co, Cleveland, Ohio
Warren City Tank & Boiler Works, Warren, O

Boilers (Water Tube.)
Babcock & Wilcox Co, 29 Cortlandt st, New York
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Keeler, E, Co, Williamsport, Pa
Walsh, W J, Holyoke, Mass

Bolt Clippers.
Helwig Mfg Co, St. Paul, Minn

Bolts. (Expansion.)
Church, Isaac, Toledo, O
Steward & Romaine Mfg Co, 130 N 6th st, Phila

Boots and Shoes.
Putman, H J, & Co, 38 Bridge sq, Minneapolis

Brakes.
Brill, J G Co, Philadelphia, Pa
(see also Air Brakes.)

Brass Rolling Machinery.
Poole, Robert, & Son Co, Baltimore, Md

Brick.
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Egyptian Silica Brick Process Co, Fredericksburg, Va
Jackson, John H, Albany, N Y
Johnsonburg Vit Brick Co, Johnsonburg, Pa
Mack Mfg Co, New Cumberland, West Virginia
McAvoy Vit Brick Co, 1345 Arch st, Philadelphia
Purington Paving Brick Co, Galesburg, Ill
Tomkins, Calvin, 120 Liberty st New York
Western Brick Co, Danville, Ill

Brick. (Fire.)
Maurer, Henry, & Son, 422 E 23d st, New York
New York Pottery Co, 12th ave & 36th st, N Y
Syracuse Stoneware Co, Syracuse, N Y

Brick Bond
Union Brick Bond Co, Pittsburg, Pa

Brick Machinery.
Bonnot Co, Canton, Ohio
Drake, C T, 300 W Jackson Boulevard Chicago

Bridge (Concrete).
Aberthaw Construction Co, Boston, Mas

Bridge Operating Machinery.
Edwards, Jos. & Co, 414 Water st. New York
Vulcan Iron Works, Chicago

Bridge Railings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia, Pa
King Bridge Co, Cleveland, O
Massillon Bridge Co, Massillon, Ohio
Stupp Bros, Bridge & Iron Co, St. Louis, Mo

Bridges and Buildings.
American Bridge Co, New York
Baltimore Bridge Co, Bush st & B & O R R, Baltimore
Bellefontaine Bridge & Iron Co, Bellefontaine, Ohio
Berlin Construction Co, Berlin, Conn
Boston Bridge Works, 47 Winter st, Boston, Mass
Champion Bridge Co, Wilmington, Ohio
Chicago Bridge & Iron Co, Chicago
Clinton Bridge & Iron Works, Clinton, Iowa
Columbia Bridge Co, Pittsburg
Concrete-Steel Engineering Co, Park Row bldg N
Easton Foundry & Machine Co, Easton, Pa
Eichleay, Jr., & Co., John, Pittsburg, Pa
Fort Pitt Bridge Works, Pittsburg, Pa
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Havana Bridge Works, Montour Falls, N Y
Joliet Bridge & Iron Co, Joliet, Ill
Kenwood Bridge Co, First Nat. Bank bldg, Chicago
King Bridge Co, Cleveland, Ohio
Massillon Bridge Co, Massillon, Ohio
McClintic-Marshall Construction Co, Pottstown, Pa
Mo. Valley Bridge & Iron Works, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, Ohio
New Castle Bridge Co Indianapolis
New England Structural Co, Boston, Mass
Parker, I A, 202-208 North First st, Terre Haute Ind
Passaic Rolling Mill Co, Paterson, N J
Penn Bridge Co Beaver Falls, Pa
Pennsylvania Steel Co, Steelton, Pa
Phœnix Bridge Co, Phœnixville, Pa
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Rogers Iron Co, Springfield, O
San Francisco Bridge Co, 220 Market st, San Franc
Scaife, W B, & Sons Co, Pittsburg, Pa
Shoemaker, Lewis F, & Co, Harrison bldg, Pa
Standard Bridge Co, Omaha
Strobel, C L, Monadnock block, Chicago, Ill
Stupp Bros. Bridge & Iron Co, St. Louis, Mo
Valle & Young, Baltimore, Md
Variety Iron Works Co, Cleveland, Ohio
Virginia Bridge & Iron Co, Roanoke, Va
Wabash Bridge & Iron Works, Wabash, Ind
Youngstown Bridge Co, 320 Broadway, New York

Bridges (Rolling Lift.)
Scherzer Rolling Lift Bridge Co, Chicago

Buckets (Automatic.)
Brown Hoisting Machinery Co, Cleveland
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Stuebner, G L, Long Island City, N Y
Union Iron Works, Hoboken, N J

Bumping Posts.
McCord & Co, 1445 Old Colony bldg, Chicago
Mechanical Mfg Co, Chicago

Bunkers (Suspension.)
Berquist, A S, 515 Bedford ave, Brooklyn, N Y

Burners (Oil.)
Hammel, C A 120 Fifth st, Los Angeles, Cal

Cableways (Suspension.)
Bacon, Earle C, 26 Cortlandt st, New York
Beatty M, & Sons, Welland, Ont
Broderick & Bascom Rope Co, St. Louis
Carson Trench Machine Co, 19 Dorrance st, Boston
Flory, S, Mfg Co, Bangor, Pa
Lambert Hoisting Engine Co, Newark, N J
Leschen, A, & Sons Rope Co, St. Louis
Lidgerwood Mfg Co, 96 Liberty st, New York
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
N. J. Foundry & Machine Co, 9 Murray st, N Y
Trenton Iron Co, Trenton, N J
United Telpherage Co, 20-22 Broad st, New York

Calking Yarn and Tools.
Ogden, J. Edward, Co, 149 Cedar st, New York

Car Couplers.
McConway & Torley Co Pittsburg, Pa
Railroad Supply Co, Bedford bldg, Chicago

Car Heating and Lighting.
Brill Co, J G, Philadelphia, Pa
Safety Car Heating & Lighting Co, 160 B'way, N Y

Car Trucks.
Brill, Co, J G, Philadelphia, Pa

Car Wheels.
Brill Co, J G, Philadelphia, Pa
Cayuta Wheel & Foundry Co, Sayre, Pa
Ramapo Iron Works, Hillburn, N Y

Cars (Dump, Plantation, Flat, Hand, Logging Mining and Freight.)
Apex Equipment Co, 11 Broadway, New York
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Commercial Ry Equipment Co, 120 Liberty st, N Y
Continental Equipment Co, 5-17 Battery Place, N Y
Gros Co, Chas, Bayonne, N J
Fairbanks, Morse & Co, Chicago
Ingoldsby Auto. Car Co, Chemical bldg, St. Louis
Koppel, Arthur, 68 Broad st, New York
National Drill & Mfg Co, 159 La Salle st, Chicago
Pressed Steel Car Co, Pittsburg, Pa
Ramapo Iron Works, Hillburn, N Y
Standard Steel Car Co, Frick bldg, Pittsburg
Steubner, G L, 176 Third st, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York

Cars (Narrow Gage.)
Brill, J G Co, Philadelphia, Pa
Hunt, C W, Co, Richmond Terrace, W N Brighton, N Y
Koppel, Arthur, 68 Broad st, New York
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York

Cars (Passenger & Freight.)
Brill, J G, Co, Philadelphia, Pa
Koppel, Arthur, 68 Broad st, New York

Cars (Wrecking & Ditching.)
Bucyrus Co, S. Milwaukee, Wis
Case Mfg Co, Columbus, O
Osgood Dredge Co, 37 State st, Albany N Y

Castings (Brass.)
Campbell, J B, Brass Works, Cascade st, Erie Pa

Castings (Iron.)
Builders Iron Foundry, Providence, R I
Brooks, T H, & Co, Cleveland, O
Coldwell-Wilcox Co, Newburg, N Y
Columbia Machine Works, 247 Chestnut st, Brooklyn
Dimmick Pipe Co, Birmingham, Ala
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Du Bois Iron Works, Du Bois, Pa
Easton Foundry & Machine Co, Easton, Pa
Fox, John & Co, 253 Broadway, N Y
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co, Genesee st, Utica, N Y
Poole, Robert, & Son Co, Baltimore, Md
Reading Foundry Co, Ltd, Reading, Pa
Sessions Foundry Co, Bristol, Conn
Variety Iron Works Co, Cleveland, O
Warren Foundry & Machine Co, 160 Broadway, N Y
(see also Sewer and Street Castings)

Cement (Portland.)
Alpha Portland Cement Co, Easton, Pa
Alsen's Am Portland Cement Wks, 45 Broadway, N Y
American Cement Co, 22 S 15th st, Philadelphia, Pa
Atlas Portland Cement Co, 30 Broad st, New York
Buckeye Portland Cement Co, Bellefontaine, Ohio
Coplay Cement Mfg Co, 1123 Broadway, N Y
Empire Portland Cement Co, Warners, N Y
Fredenburg & Lounsbury, Metropolitan bldg, N Y
French, Samuel H, & Co, Philadelphia
General Supply & Construct'n Co, 8-10 Bridge st, N
Glens Falls Portland Cement Co, Glens Falls, N Y
Hartranft, Wm G, Cement Co, Philadelphia
Helderberg Cement Co, Albany, N Y
Illinois Steel Co, Rookery, Chicago
Kelley Island Lime & Transport Co, Cleveland, Ohio
Lawrence Cement Co, 1 Broadway, New York
Lehigh Portland Cement Co, Allentown, Pa
Sinclair & Babson, 45 Broadway, New York
Snyder, Hiram, & Co, 229 Broadway, New York
St Louis Portland Cement Co, St Louis
Thorn Cement Co, 112 Church st, Buffalo, N Y
Vulcanite Portland Cement Co, 160 Fifth ave, N Y
Warner, Chas, Co, Wilmington, Del

Cement (Rosendale.)
Consolidated Rosendale Cem. Co, 26 Cortlandt st, N Y
Coplay Cement Mfg Co, 1123 Broadway, N Y
Cumberland (Md.) Cement & Mfg Co, P O Box 264
Meacham & Wright, Chamber of Commerce, Chicago
Milwaukee Cement Co, Milwaukee, Wis
Snyder, Hiram, & Co, 229 Broadway, New York
Tomkins, Calvin, 120 Liberty st, New York
Union Akron Cement Co, 141 Erie st, Buffalo, N Y
Western Cement Co, Louisville, Ky

Cement Kilns and Machinery
Allis-Chalmers Co, Home Ins bldg, Chicago
Bartlett, C O, & Snow Co, Cleveland, Ohio
Bonnot Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Clark, J C, Box 525, Atlanta, Ga
Dodge Mfg Co, Mishawaka, Indiana
Kent Mill Co, 170 Broadway, New York
Jeffrey Mfg Co, Columbus, Ohio
Smidth, F L, & Co, 66 Maiden Lane, New York
Sturtevant Mill Co, 105 Clayton st, Boston
Vulcan Iron Works, Wilkesbarre, Pa
West Pulverizing Mach. Co, Jersey City, N J

Cement Mixer.
Alexander Iron Works, Syracuse, N Y

Chain Blocks.
Yale & Towne Mfg Co, 9-13 Murray st, New York

Chains.
Newhall Chain Forge & Iron Co, 9 Murray st, N Y

Channelers.
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago Ill

Chemists.
McKenna, Chas. F, 221 Pearl st, N Y
(see also Laboratories.)

Chimneys. (Brick.)
Custodis, A, Chimney Const'n Co, Bennett bldg, N Y

Coal and Ore Handling Machinery.
Aultman Co, Canton, Ohio
Bacon, Earle C, 26 Cortlandt st, New York
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Brown Hoisting Machinery Co, Cleveland, O
Exeter Machine Works, Pittston, Pa
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, Ohio
King Bridge Co, Cleveland, Ohio
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, N Y
Link Belt Engineering Co, Nicetown, Phila
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, New York
N. J. Foundry & Machine Co, 9 Murray st, New York
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Robins Conveying Belt Co, 14-21 Park Row, N Y
Simpson, H S, Mfg's Agt, Electric bldg, Cleveland
Steubner G L, 176 Third st, Long Island City, N Y

Colleges (Engineering.) (see page IV.)

Concentrators.
Allis-Chalmers Co, Home Ins bldg, Chicago

Concrete Mixers.
Clyde Iron Works, Duluth, Minn
Cockburn Barrow & Mach. Co, Jersey City, N J
Contractor's Plant Co, 37 Pittsburg st, Boston
Contractors' Supply & Equip. Co, 232 5th av, Chicago
Drake, C T, 300 W Jackson Boulevard, Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Iroquois Iron Works, Buffalo
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
McKelvey Concrete Mach'y Co, Security bldg, Chicago
Municipal Eng & Contr'g Co, Manhattan bldg, Chicago
Ransome Concrete Mach'y Co, 11 Broadway, N Y

Concrete Building Apparatus.
Farrell, Thos C, Washington, New Jersey

Concrete Steel Construction
Aberthaw Con. Co, 12 Beacon st, Boston, Mass
Concrete Steel Eng. Co, Park Row Bldg, N Y
Ronsome Concrete Machinery Co, 11 Broadway, N Y
Ransome & Smith Co, 11 Broadway, N Y
St. Louis Exp. Metal Co, St. Louis, Mo.
Turner Cons. Co, 11 Broadway, N Y

Condensers.
Alberger Condenser Co, 95 Liberty st, N Y
Allis-Chalmers Co, Home Ins bldg, Chicago
Davidson M T, 58 Keap st, Brooklyn, N Y
Dean Bros, Steam Pump Works, Indianapolis, Ind
Epping-Carpenter Co, Pittsburg
Guild & Garrison, So 10th st, Brooklyn, N Y
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Conduits (Pipe.)
American Vitrified Conduit Co, 170 Broadway, N Y
Blackmer & Post Pipe Co, St. Louis, Mo
Camp, H B Co, 170 Broadway, New York
Eppinger & Russell Co, 66 Broad st, New York
Field, C J, 29 Broadway, New York
Standard Vitrified Conduit Co, 39 Cortlandt st, N Y
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Contractors.
Abbot-Gamble Contracting Co, St. Louis and N Y
American Pipe Mfg Co, 112 N Broad st, Philadelphia
Bates & Rogers Const'n Co, 1203 Manhattan bldg, Chic
Cook Well Co, St. Louis, Mo
Eastern Construction Co, 48 Classon ave, Brooklyn, NY
Eichleay, John, Jr, Co, Pittsburg
Esson, W A, & Co 1137 Stock Exchange bldg, Chicago
Foundation & Contracting Co, 37 Nassau st, New York
Gahagan, W H, 189 Montague st, Brooklyn, N Y
Gest, G M, Cincinnati and New York
Gilbreth, Frank B, 176 Federal st, Boston
Gillespie, T A, Co, Westinghouse bldg, Pittsburg, Pa
McCabe, Jas. F, 304 Equitable bldg, Baltimore, Md
McMullen, Arthur & Co, 13-21 Park Row bldg, N Y
Murphy, J M & Co, Windsor Arcade, N Y
O'Rourke, John F, Park Row bldg, New York
Phillips & Worthington, 11 Broadway, New York
Quigley, R M, & Co, Laclede bldg, St. Louis, Mo
Regan & Mulock, D P, 4429 Chestnut st, Philadelphia
Snare & Triest, 39 Cortlandt st, New York
United Eng & Con Co, 13-21 Park Row, New York
(see also Artesian Wells; Asphalt Paving; Bridges; Dredging; Wharf and Pier Builders.)

Contractors' Tools and Supplies.
Bond, H L, & Co, Pearl & Purchase sts, Boston, Mass
Crane & Co, Inc, A M, The Rookery, Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Kennedy & Co, L. E., 17 Broadway, New York
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Standard Supply & Equipment Co, Philadelphia
Wickes Bros New York and Saginaw, Mich

Conveyors. (See Hoisting and Conveying Machinery; also see Trench Machines.)

Cooling Towers.
Alberger Condenser Co, 95 Liberty st, New York
Davidson, M T, 53 Keap st, Brooklyn, N Y
Worthington, Henry R, Brooklyn, N Y

Cranes.
Am. Hoist & Derrick Co, St. Paul, Minn
Brown Hoisting Machinery Co, Cleveland, O
Bucyrus Co, S Milwaukee, Wis
Case Mfg Co, Columbus, Ohio
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Industrial Works, Bay City, Mich
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Manning, Maxwell & Moore, 85 Liberty st, New York
Marion Steam Shovel Co, Marion, Ohio
Niles Tool Works Co, 136-138 Liberty st, New York
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Wood, R D, & Co, Philadelphia, Pa

Cranes (Portable).
North Penn Iron Co, 3d & Sedgley ave, Philadelphia

Creosoting.
American Creosote Works, New Orleans
Atlantic Creo & Wood Pres Works, Norfolk, Va
Carbolineum Wood Preserving Co, 13 Park Row, N Y
Eppinger & Russell Co, 66 Broad st, New York
International Creosoting & Con. Co, Galveston, Tex
New Orleans Wood Pres Works, New Orleans, La
Norfolk Creosoting Co, Norfolk, Va
Southern Creosoting Co, Slidell, La
U S Wood Preserving Co, 29 Broadway, New York
West Pascagoula Creosote W'ks, W Pascagoula, Miss
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Crucibles.
Dixon, Jos., Crucible Co, Jersey City, N J

Damper Regulators.
d'Este, Julian Co, 15 Canal st, Boston

Derrick and Derrick Fittings.
American Hoist & Derrick Co, St. Paul Minn
Byers, John F, Machine Co, Ravenna, Ohio
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Dobbie Foundry & Machine Co, 14 Dey st, N Y
Hayward Co, 97 Cedar st, New York
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
Lambert Hoisting Engine Co, Newark, N J

Diamond Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago

Differential Hoists.
Boston & Lockport Block Co, Boston, Mass

Ditching and Excavating Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, S. Milwaukee, Wis
Carson Trench Machine Co, 16 Dorrance st, Boston
Hayward Co, 97 Cedar st, New York
Marion Steam Shovel Co, Marion, Ohio
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, 12 Post Office Square, Boston
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago
Vulcan Iron Works Co, Toledo
Western Wheeled Scraper Co, Aurora, Ill

Diver.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill

Diving Apparatus.
Morse, Andrew J, & Son, 140 Congress st, Boston
Schrader's, A, Son, 32 Rose st, New York

Docks (Composite and Steel Floating).
Crandall, H I, & Son Co, East Boston, Mass

Doors and Door Fittings.
Kinnear Mfg Co, Columbus, Ohio
N. J. Foundry & Machine Co, 9 Murray st, N Y
Wilson, J Godfrey, 3 W 29th St, N Y

Drafting Tables.
Emerson Mfg. Co, F W, Rochester, N Y
Hein Furniture Co, Toledo, O

Draftsmen's Supplies. (see Instruments.

Drain Tile (see Pipe, Vitrified Clay.)

Dredging and Dredging Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bowers, A B San Francisco, Cal
Bucyrus Co, S Milwaukee, Wis
Edwards, Jos., & Co, 414 Water st, New York
Ellicott Machine Co, Baltimore, Md
Falcon, Jos, G, 1110 Ayres Court, Evanston, Ill
Featherstone Fdy & Mach Co, 348 N. Halsted, Chicago
Hayward Co, 97 Cedar st, New York
Lawrence Machine Co, Lawrence, Mass
Marion Steam Shovel Co, Marion, Ohio
Morris Machine Works, Baldwinsville, N Y
Mundy, J S, Newark, N J
Osgood Dredge Co, Albany, N Y
Smith, Theo., & Bro, Jersey City, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works Co Toledo

Drilling and Boring Machines (Portable).
Knight Mfg Co, Canton, Ohio
Philadelphia Pneumatic Tool Co, Philadelphia
Stow Flexible Shaft Co, 26th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y
(see also Pneumatic Tools; also Rock Drills.)

Drop Forgings.
Keystone Drop Forge Wks, 3001-63 Clearfield st, Phila

Drop Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Dry Docks (Marine Railway).
Crandall, H I, & Son Co, East Boston, Mass

Dryers (Cement).
American Process Co, 62 William st, New York
Bartlett, C O, & Snow Co, Cleveland, O
Crown Dryer Co, 129 Euclid ave, Cleveland
Cummer, F D, & Son Co, Cleveland, O
Ruggles Coles Engineering Co, 41 Cortlandt st, N Y
Simpson, H S, Mfg's Agt, Electric bldg, Cleveland
West Pulverizing Machine Co, Jersey City, N J

Dynamite (see Explosives).

Dynamos.
C & C Electric Co, Central R R bldg, New York
Coho & Co, H B, 114 Liberty st, New York
General Electric Co, Schenectady, N Y
Storey Motor & Electric Co, Harrison, N J
Stow Mfg Co, Binghamton, N Y
Westinghouse Electric & Mfg Co, Pittsburg, Pa

Economizers (Fuel).
Green Fuel Economizer Co, Matteawan, N Y
Broomell, Schmidt & Steacy Co, York, Pa

Electric Storage Batteries.
Electric Storage Battery Co, Philadelphia

Elevators.
Marine Engine & Machine Co, 1123 Broadway, N Y
Morse Elevator Works, Philadelphia
Otis Elevator Co, 71 Broadway, N Y

Employment Bureaus.
Brotherhood Steam Shovel & Dredge Engrs., Chicago
Cleveland Engineering Agency, Box 71, Sta. B, Cleve
Engineering Agency, Monadnock blk, Chicago, Ill
Engineering Employment Bureau, Syracuse N Y
Hapgood Bureau, 257 Broadway, N Y
New York Engineering Agency, 35 Warren st, N Y

Engines. (Gas and Gasoline).
American Well Works, Aurora, Ill
Backus Water Motor Co, Newark, N J
Chase Machine Co, Cleveland
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Fairbanks, Morse & Co, Chicago, Ill
Mietz & Weiss, 128 Mott st, New York
New Era Iron Work Co, 37 Dale ave, Dayton, O
Otto Gas Engine Works, Philadelphia, Pa
Snow, T W, (Otto Engine) 360 Dearborn st, Chicago
Springfield Gas Engine Co, Springfield, O
Struthers-Wells Co, Warren, Pa
Temple Pump Co, 15th Place, Chicago
U. S. Wind Eng. & Pump Co, 20 Water st, Batavia, Ill
(see also Engines, Oil.)

Engines (Hoisting).
American Hoist & Derrick Co, St. Paul, Minn
Bacon, Earle C, 26 Cortlandt st, New York
Beatty, M, & Sons, Welland, Ont
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F., Machine Co, Ravenna, Ohio
Chase Machine Co, Cleveland
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Fairbanks, Morse & Co, Chicago, Ill
Flory, S, Mfg Co, Bangor, Pa
Hunt, C W., Co, Richmond Terrace, W N Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, New York
Monighan's Machine Works, 813 Carroll ave, Chicago
Mundy, J S, Newark, N J
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa
(see also Electric Hoists.)

Engines (Marine).
Buffalo Forge Co, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego N Y
Morris Machine Works, Baldwinsville, N Y
Otto Gas Engine Works, Philadelphia, Pa

Engines (Oil)
Aultman Co, Canton, Ohio
Mietz & Weiss, 128 Mott st, New York

Engines (Portable).
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Port Huron Engine Co, Port Huron, Mich

ADVERTISERS' CLASSIFIED DIRECTORY.

Engines (Steam).
Allis-Chalmers Co, Home Ins bldg, Chicago
Buffalo Forge Co, Buffalo, N Y
Erie Pump & Engine Co, Erie, Pa
Fairbanks, Morse & Co, Chicago
Featherstone Fdy & Mach Co, 348 N. Halsted, Chicag
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Lawrence Machine Co, Lawrence, Mass
Leffel, Jas, & Co, Springfield, O
Morris Machine Works, Baldwinsville, N Y
Southwark Foundry & Machine Works, Philadelphia
Sturtevant, B F, Co, Boston, Mass
Struthers, Wells & Co, Warren, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre Pa

Engines (Traction).
Aultman Co, Canton, O
Heisler, Chas. L, Erie, Pa
Kelly, O S. Co, Springfield, O
Port Huron Engine Co, Port Huron, Mich

Excavators and Excavating Machinery
(see Ditching and Excavating Machinery and Steam Shovels.)

Exhaust Heads
Burt Mfg. Co, Akron, O

Expanded Metal.
Assoc Exp Metal Cos, Room 1209, 256 Broadway, N Y
General Fireproofing Co, Youngstown, O
Truss Metal Lath Co, 40 Gold st, New York
Youngstown Iron & Steel Roofing Co, Youngstown, O

Explosives.
Explosives Mfg Co, Elmira, N Y
Electric Exploder Co, 120 Liberty st, N Y
Kirk, Arthur & Son, Co, 916 Duquesne Way, Pittsburg

Faucets.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Feed Water Heaters.
Allis-Chalmers Co, Home Ins bldg, Chicago
Erie Machine Shops, Erie, Pa
Gem City Boiler Co, Dayton, O
Green Fuel Economizer Co, Matteawan, N Y
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Patterson, Frank L, & Co, 25 Church st, New York
Robertson, Jas. L, & Sons 192 Fulton st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O

Feed Water Purifiers.
Industrial Water Co, 126 Liberty st, New York
Pittsburg Filter Mfg Co, Pittsburg, Pa
Smith, W B, Perth Amboy, N J

Fencing. (Wire).
American Steel & Wire Co, New York & Chicago
International Fence & Fireproofing Co, Columbus, O
Lamb Wire Fence Co Adrian, Mich

Fillet. (Leather).
Butler, A G, 284 Pearl st, New York

Filing Cases.
Art Metal Construction Co, Jamestown, N Y
General Fireproofing Co, Youngstown, O

Filter Presses.
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio

Filters.
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Deutsch, W M, 141 Broadway, N Y
Jackson Filter Mfg Co, St Louis
Loomis-Manning Filter Co, Philadelphia, Pa
N Y Continental-Jewell Co, 15 Broad st, N Y
Norwood Engineering Co, Florence, Mass
Pittsburg Filter Mfg Co, Pittsburg, Pa
Ross Valve Co, Troy, N Y
Scaife, Wm. B, & Sons Co, Pittsburg

Filters (Oil).
Burt Mfg Co, Akron, O
Robertson, Jas L, & Sons, 92 Fulton st, New York

Fire Department Supplies.
Morse, Andrew J, & Son, 140 Congress st, Boston, Mass

Fire Proofing.
Aberthaw Construction Co, Boston, Mass
Berger Mfg Co, Canton, O
Bromley, A H, Jr, 112 N Broad st, Philadelphia
Hennebique Patents 1123 Broadway, N Y
Metropolitan Fire Proofing Co, Trenton, N J
Ransome Concrete Machinery Co, 11 Broadway, N Y
Ransome & Smith Co, 11 Broadway, N Y
Roebling Construction Co, 121 Liberty st, New York
St Louis Expanded Metal Fireproofing Co, St Louis
Wight, W N, & Co, 160 Fifth ave, New York
(see also Expanded Metal, also Concrete Steel Construction.)

Fire Proofing (Hollow Tile).
Maurer, Henry & Sons, 422 E 23d st, New York

Fire Proofing (Wood).
Electric Fireproofing Co, 19th st, and East River, N Y

Fittings (Flanged).
McLeod Co, 95 Liberty st, New York

Flexible Pipe Joint.
Falcon, Jos, G, 1110 Ayres Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Flexible Shafts.
Stow Flexible Shaft Co, 16th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y

Flue Lining (Fire Clay).
Jackson, John H, Albany, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th sts, N Y

Flush Tanks.
Pacific Flush Tank Co, 48 La Salle st, Chicago

Fly Wheels.
Poole, Robert, & Son Co, Baltimore, Md

Forges (Portable).
Buffalo Forge Co, Buffalo, N Y
Roots, P H & F M, Co, Connersville, Ind
Tate, Jones & Co, Pittsburg Pa

Forgings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Baker, Jas H, Mfg Co, 508 Park bldg, Pittsburg, Pa
Brill, J G, Co, Philadelphia, Pa
Cleveland City Forge & Iron Co, Cleveland
Keystone Drop Forge Wks, 2001-63 Clearfield st, Phila
Pennsylvania Steel Co, Steelton, Pa

Friction Clutches.
Brown Hoisting Machinery Co, Cleveland
Dodge Mfg Co, Mishawaka, Indiana
Link Belt Engineering Co, Nicetown, Philadelphia
Smith, S Morgan, Co, York, Pa

Frogs, Switches and Crossings.
Elliot Frog & Switch Co, East St. Louis, Ill
N Y Switch & Crossing Co, Hoboken, N J
Pennsylvania Steel Co, Steelton, Pa
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Fuel Economizers (see Economizers).

Furnaces (Gas).
American Gas Furnace Co, 23 John st, New York

Furnaces (Oil).
Petroleum Iron Works, Washington, Pa
Tate, Jones & Co, Empire bldg, Pittsburg

Furniture (Steel).
General Fireproofing Co, Youngstown, O

Gages (Steam).
Crosby Steam Gage & Valve Co, Boston

Galvanized Iron and Steel.
Am Sheet Steel Co Battery Park bldg, New York

Galvanizing Kettles.
Columbiana Boiler Co, Columbiana, Ohio
Enterprise Boiler Co, Youngstown, Ohio

Garbage Dump Carts (see Wagons and Carts).

Garbage Furnace.
Morse-Boulger Destructor Co, 39 Cortlandt st, N Y
Smith-Siemens Garbage Furnace, 141 Broadway, N Y

Gas Fittings.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Gas Holders.
Wood, R D, & Co, 400 Chestnut st, Philadelphia
(see also Stand-Pipes and Tanks.)

Gas Machinery.
American Gas Furnace Co, 23 John st, New York
Gas Machinery Co, Cleveland, O
National Drill & Mfg Co, Chicago, Ill
Norwalk Iron Works, South Norwalk, Conn
Roots, P H, & F M, Co, Connersville, Ind
Wood, R D, & Co, Philadelphia, Pa

Gas Works.
Gas Machinery Co, Cleveland, Ohio

Gaskets.
McCord & Co, 1445 Old Colony bldg, Chicago
U. S. Mineral Wool Co, 143 Liberty st, New York

Gates (Railway).
International Fence & Fireproofing Co, Columbus, O
Pneumatic Signal Co, 1122 Broad-Exchange bldg, N Y

Gearing.
Caldwell, H W, & Son Co, Chicago
Morse Elevator Works, Philadelphia
Poole, Robert, & Son Co, Baltimore, Md
Smith S. Morgan, Co, York, Pa

Gear-Wheels.
Taylor Iron & Steel Co, High Bridge, N J

Gloves (Hand Made).
Luther, J P, Glove Co, 526 Pearl St, Berlin, Wis

Governors (Water Wheel).
Lombard Governor Co, 36 Whittier st, Boston
Replogle Governor Works, Chestnut st, Akron, O

Graders.
Austin Mfg Co Manhattan bldg, Chicago
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
Shuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Grain Elevators (see Tanks, grain storage.)

Granite (see Stone also Paving Blocks).

Graphite.
Detroit Graphite Mfg Co, Detroit, Mich
Dixon Jos., Crucible Co, Jersey City, N J
Goheen Mfg Co, Canton, Ohio
Internat'l Acheson Graphite Co, Niagara Falls, N Y

Grate Bars.
Dobbie Foundry & Mach Co, 138 Dey st, N Y
Robertson, Jas L, & Sons, 192 Fulton st, New York

Greenhouses.
Plenty, Josephus, Jersey City, N J

Hanger (Joist).
Clark Co, W J, Salem, Ohio
Columbian Hardware Co, Cleveland, Ohio
Duplex Hanger Co, Cleveland, Ohio

Headlights (Locomotive).
Brill, J G, Co, Philadelphia
Dressel Ry Lamp Works, 3876 Park ave, New York
Railroad Supply Co, Bedford bldg, Chicago

Heating and Ventilating (Steam & Hot Water
American Blower Co, Detroit
Am. District Steam Heating Co, Lockport, N Y
Keeler, E, Co, Williamsport, Pa
Mass. Fan Co., Waltham, Mass

Hoisting Engines (see Engines, Hoisting).

Hoisting and Conveying Machinery.
Aultman Co, Canton, O
Beatty, M, & Sons, Welland, Ont
Bartlett, C O, & Snow Co, Cleveland, O
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F, Machine Co, Ravenna, O
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Cresson Co Geo. V, Philadelphia
Carson Trench Machine Co, Boston, Mass
Dodge Mfg Co, Mishawaka, Indiana
Exeter Machine Works, Pittston, Pa
Garland, M, Co, Bay City, Mich
Hunt, C W, Co, Richmond Terrace, W N Brighton NY
Jeffrey Mfg Co, Columbus, Ohio
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Lambert Hoisting Engine Co, Newark, N J
Link Belt Engineering Co, Nicetown, Philadelphia
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, N Y
Pawling & Harnishfeger, 167 Clinton st, Milwaukee
Robins Conveying Belt Co, 14-21 Park Row, N Y
Steel Cable Engineering Co, 120 Liberty st, New York
Trenton Iron Co, Trenton, N J
Union Iron Works, Hoboken, N J
United Telpherage Co, 20-22 Broad st, N Y

Hoists (Electric).
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg. Co, 96 Liberty st, N Y
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Rawson & Morrison Mfg Co, Cambridgeport, Mass
United Telpherage Co, 20-22 Broad st, New York

Hoists (Pneumatic).
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 1212-17 Herman bldg, Milwaukee

Hooks (Hoist, Grab, etc.)
Baker, Jas. H, Mfg Co, 503 Park bldg, Pittsburg
Roebling's, John A. Sons Co, Trenton, N J

Hose (Metal).
Moore Chas. C, & Co, 32 First st, San Francisco

Hose (Rubber).
McKiernan Drill Co, 170 Liberty st, N Y

Hose (Suction).
Edson Mfg Co, 255 Atlantic ave, Boston

Hydrants and Valves.
Bourbon Copper & Brass Works, Cincinnati, O
Cayuta Wheel & Foundry Co, Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Clow, J B & Sons, Lake & Franklin sts, Chicago
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Drummond, M J, & Co, 192 Broadway, N Y
Fox, John & Co, 253 Broadway, N Y
Kennedy Valve Mfg Co, 50 Beekman st, N Y
Loetzer Valve & Mfg Co, Towanda, Pa
Ludlow Valve Mfg Co, Troy, N Y
McLean, John, 298 Monroe st, New York
Millar, Chas. & Son, Co, Utica, N Y
Norwood Engineering Co, Florence, Mass
Reading Foundry Co, Ltd, Reading, Pa
Ross Valve Co, Troy, N Y
Smith, A P, Mfg Co, Newark, N J
Thompson, J, & Co, Philadelphia, Pa
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Jacks.
Watson-Stillman Co 210 E. 43d st, New York

Hydraulic Leather Packing.
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Detroit Leather Specialty Co, 900 Michigan av, Detroit

Hydraulic Machinery.
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Deming Co, Salem, Ohio
Pelton Water Wheel Co, 134 Main st, San Francisco
Watson-Stillman Co, 210 E 43d st, New York
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Presses.
Watson-Stillman Co, 204 E 43d st, New York
Wood, R D, & Co, 400 Chestnut st, Philadelphia

Hydraulic Rams.
Pelton Water Wheel Co, 134 Main st, San Francisco

Ice and Refrigerating Machinery.
Featherstone Fdy & Mach Co, 348 N Halsted, Chicago

Indicators (Steam Engine).
Ashcroft Mfg Co, 85 Liberty st, New York
Crosby Steam Gage & Valve Co, Boston, Mass
Robertson, Jas L, & Sons, 192 Fulton st, N Y

Injectors.
Hayden & Derby Mfg Co, 85 Liberty st, New York
Lunkenheimer Co, Cincinnati, Ohio

Instruments (Engineering, Drafting).
Ainsworth, Wm. & Sons, Denver Colorado
Albrecht, C. R., 62 Fulton st, New York
Aloe, A S, Co, 414 N Broadway, St. Louis, Mo
Alteneder, Theo, & Sons, 945 Ridge ave, Phila, Pa
Archts' & Engrs' Supply Co, 1011 Walnut st, Kan. City
Beckman, L, 57 Adams st, Toledo, Ohio
Berger, C L, & Sons, 37 Williams st, Boston, Mass
Brandis, F E, Sons & Co, 814 Gates ave, Brooklyn, NY
Brown & Sharpe Mfg Co, Providence, R I
Buff & Buff Co, J P Station, Boston, Mass
Dietzgen, Eugene, Co, 181 Monroe st, Chicago
Engineers' Instrument Exchange, Scranton, Pa
Gurley, W & L E, Troy, N Y
Hardtmuth, L & C, 49 Barclay st, New York
Heller & Brightly, Spring Garden st & Ridge av, Phila
Hetterschied Mfg Wks, Grand Rapids, Mich
Keuffel & Esser Co, 127 Fulton st New York
Knight, F C, & Co, 400 Locust ave, Philadelphia Pa
Koelsch & Co, 138 Fulton st, New York
Ledder, G G, 302 School st, Boston
Lietz, A, Co, 422 Sacramento st, San Francisco, Cal
Mahn & Co, 300-302 Olive st, St. Louis
Pfister, Herm, 428 Plum st, Cincinnati, O
Prince, L M, 108 West 4th st, Cincinnati, O
Queen & Co, Inc, Philadelphia, Pa
Saegmuller, G N, Washington, D C
Sala, J C, 429 Montgomery st, San Francisco
Schwencke, Kirk & Co, 26 Church st, New York
Soltmann, E G, 123 E 42d st, New York
Stackpole & Bro, 39 Fulton st, New York
Stanley, W F, & Co, Great Turnstile, Holborn, London
Ulmer, J C, & Co, 224 Champlain st, Cleveland, Ohio
Universal Drafting Mach Co, Blackstone bldg, Cleve
Weber, F, & Co, Philadelphia
Williams, Brown & Earle, 918 Chestnut st, Phila
Wittstock, P & R, Berlin, S. 59, Germany
Young & Sons, 43 N. 7th st, Philadelphia

Insulating Materials.
Standard Paint Co, 103 William st, New York

Iron Work (Ornamental).
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia Pa
Brooks, T H, & Co, Cleveland, O
Rogers Iron Co, Springfield, O
Schrieber, L, & Sons Co, Cincinnati, O
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Walton Iron Co, Cincinnati, O

Iron Work (Structural).
(see Structural Steel and Iron Work.)

Jacks
Duff Mfg Co, Allegheny, Pa
Norton, A O, 286 Congress st, Boston
Watson-Stillman Co, 210 E 43d st, N Y

Labor (Italian).
Italo-American Trust Co, 725 Carpenter st, Phila
Julian Bros, 110 Mott st, New York

Laboratories (Chemical and Testing).
Booth, Garrett & Blair, Philadelphia, Pa
Hunt, R W, & Co, Rookery, Chicago
McKenna, Chas F, 221 Pearl st, New York
Pittsburg Testing Laboratory, Pittsburg, Pa
Riehle Bros. Test & Machine Co, Philadelphia, Pa

Lamps (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Lathing (Metallic).
Berger Mfg Co, Canton, O
General Fireproofing Co, Youngstown, O
(see also Fireproofing.)

Lead (Pig).
Millar, Chas & Son Co, Utica, N Y
Ogden, J Edward Co, 147 Cedar st, New York

Lead Furnaces.
McLean, John, 298 Monroe st, New York
Ogden, J Edward Co, 147 Cedar st, New York
Union Iron Works, Hoboken, N J

Light (Contractors').
Kitson Hydro-Carbon Htg & Lighting Co, Phila
Macleod & Co, Walter, Cincinnati Ohio
Wells Light Co, 44 Washington st, New York

Locomotive Tires.
Latrobe Steel Co, 1200 Girard bldg, Philadelphia, Pa

Locomotives.
American Locomotive Co, 25 Broad st, New York
Baldwin Locomotive Works, Philadelphia, Pa
Heisler, Charles L, Erie, Pa.
Porter, H K Co, Pittsburg, Pa.

Locomotives (Contractors').
Avery, C F, 114 Liberty st, New York
Byers, John F, Machine Co, Ravenna, Ohio
Fitz-Hugh & Co, Chicago and New York
Porter, H K, Co, Pittsburg, Pa
Vulcan Iron Works, Wilkesbarre, Pa

Locomotives (Electric and Mining).
Baldwin Locomotive Works, Philadelphia, Pa
Brill, J G, Co, Philadelphia
General Electric Co, Schenectady, N Y
Jeffrey Mfg Co, Columbus, O
Koppel, Arthur, 66 Broad st, New York
Patton & Co, J. R., House bldg, Pittsburg, Pa
Porter, H K, Co, Pittsburg, Pa
Westinghouse Electric & Mfg Co, Pittsburg

Locomotive Headlights.
(see Headlights, Locomotives.)

Locomotives (Second hand).
(See Railway Equipment, Dealers.)

Lubricants.
Dixon, Jos, Crucible Co, Jersey City, N J

Lubricators.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Lumber (Creosoted).
American Creosote Works, Ltd, New Orleans, La
Atlantic Creo & Wood Pres Wks, 10 Bridge St, N Y
Carbolineum Wood Pres Co, 13 Park Row, N Y
International Creosoting & Con Co, Galveston, Tex
Norfolk Creosoting Co, Norfolk, Va
Wyckoff Pipe & Creosoting Co, Portsmouth, Va
(see also Creosoting)

Lumber (Dock).
Vanderbilt & Hopkins, 126 Liberty st, New York

Machinery (Second hand).
Braden, Jas A, 514 Park Row bldg, New York
Briggs, Marvin, 12 Broadway, New York
Carlin Machy & Supply Co, 186 Lacock st, Allegheny
Chicago House Wreck Co, W. 35th & Iron sts, Chicago
Contractors' Supply Co, 1531 Monadnock blk Chicago
Contractors' Plant Depot, 29 William st, New York
Driscoll, J. T., McCormick bldg, Chicago
Efros Co, Chas, Bayonne, N J
Fitz-Hugh Co, Monadnock block, Chicago
Grant & Harper Machy Co, Park Row bldg, New York
Low, Edgar S, Co, Empire bldg, Pittsburg
Saxton, J C, 18 Broadway, New York
Troy Public Works Co, 1 Mann bldg, Utica, N Y
Whitney, O R, 39 Cortlandt st, New York

Machine Tools.
Manning, Maxwell & Moore, 85 Liberty st, New York
Niles Tool Works Co, 136-138 Liberty st, New York

Mail Chutes.
Cutler Mfg Co, Rochester, N Y

Manholes and Covers.
(See Sewer and Street Castings; also Castings, Iron.)

Measure (Rotary).
Steckenreiter Mfg Co, 98 Lake st, Chicago, Ill

Measuring Tapes. (Steel).
Chicago Steel Tape Co, 508 Temple Court, Chicago
Johnston, Robt, Wilkesbarre, Pa
Keuffel & Esser, 127 Fulton st, New York
Lufkin Rule Co, Saginaw, Mich
Starrett, L S, Co, 96 Crescent st, Athol, Mass

Merchandise Checks.
Am. Ry Supply Co, 24 Park Place, New York

Mechanical Draft.
American Blower Co, Detroit
Buffalo Forge Co, Buffalo, N Y
Sturtevant, B F, Co, Boston, Mass
(see also Blowers.)

Metal Hose (See Hose, Metal).

Meters (Current).
Berger, C L, & Sons, 9 Province st, Boston, Mass

Meters (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Meters (Gas).
Pittsburg Meter Co East Pittsburg Pa

Meters (Water).
Buffalo Meter Co, 363 Washington st, Buffalo
Builders Iron Foundry, Providence, R I
Cole, E S, 135 Park Row bldg, New York
Hersey Mfg Co, Boston, Mass
Neptune Meter Co, 253 Broadway, New York
Pittsburg Meter Co, East Pittsburg, Pa
Thomson Meter Co, 79 Washington st, Brooklyn, N Y
Union Water Meter Co, Worcester, Mass
Worthington, Henry R, Brooklyn, N Y

Mining Machinery.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Diamond Rock Drill Co, 95 Liberty st N Y
Blanton, E A, Jr, The Bourse, Philadelphia
Bradley Pulverizer Co, 92 State st, Boston, Mass
Bucyrus Co, S. Milwaukee, Wis
Fairbanks, Morse & Co, Chicago
General Electric Co, Schenectady, N Y
Jeffrey Mfg. Co, Columbus, O
Lidgerwood Mfg Co, 96 Liberty st, N Y
Marion Steam Shovel Co, Marion, Ohio
Rand Drill Co, 128 Broadway, N Y
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Vulcan Iron Works, Wilkesbarre, Pa

Mortar Mixers.
Drake, C T, 300 W Jackson Boulevard, Chicago

Motors (Electric). (see Dynamos.)

Non-Conducting Covering.
U S Mineral Wool Co, 143 Liberty st, New York

Nut Locks.
National Elastic Nut Co, Milwaukee, Wis

Oil Burners.
Hammel, C A, 120 Fifth st, Los Angeles, Cal

Oil Cups.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Oil Mill Machinery.
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio

Oilless Bearings.
No Am Metaline Co, 6 West ave, Long Island City, N

Ore Handling Machinery.
(see Coal and Ore Handling Machinery.)

Packing.
Detroit Leather Specialty Co, 900 Michigan av, Detro
Robertson, Jas L, & Sons, 192 Fulton st, New York

Painting Machines (Pneumatic).
Hook, F E, Hudson, Mich
Macleod & Co, Walter, Cincinnati, O

Paint Pigment.
Internat'l Acheson Graphite Co, Niagara Falls N Y

Paints.
Carbolineum Wood Pres Co, 13 Park Row, N Y
Chilton Paint Co, 69 Cortlandt st, N Y
Detroit Graphite Mfg Co, Detroit, Mich
Dixon, Jos, Crucible Co, Jersey City, N Y
Goheen Mfg Co, Canton, Ohio
Heath & Milligan Mfg Co, Chicago
Hook, F E, Hudson, Mich
Michigan Paint Co, 65 Woodland ave, Cleveland, C
National Paint Works, Williamsport, Pa
Rinald Bros, 1142 N Hancock st, Philadelphia
Sicilian Asphalt Paving Co, Times bldg, New Yor
Standard Paint Co, 103 William st, New York
Toch Bros, New York
Zibell Damp-Resisting Paint Co, N Y

Paint (Cold Water).
Bird & Co, J A & W, 10 Well st, Boston

Patent Attorneys.
Hill, Thos A, 261 Broadway, New York
Straley, Hasbrouck & Schloeder, 257 Broadway, N

Pattern Letters.
Butler, A G, 284 Pearl st, New York

Paving (Bituminous-Macadam).
Warren Bros Co, 93 Federal st, Boston

Paving Blocks (Stone).
Leopold, J, & Co, 18 Broadway, New York
(See also Stone.)

Paving Brick (see Brick).

Perforated Metals.
Harrington & King Perforating Co, Chicago, Ill

Pile Driving Machinery.
American Hoist & Derrick Co, St. Paul, Minn
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee Wis
Contractors' Plant Mfg Co, Buffalo, N Y
Lidgerwood Mfg Co, 96 Liberty st, N Y
Mundy, J S, Newark, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago, Ill

Pile Hammers.
Vulcan Iron Works, Chicago, Ill

Piling.
American Creosote Works, Ltd, New Orleans, La
Atlantic Creosot. & Wood Pres. Co, 10 Bridge st, N Y
Eppinger & Russell Co, 66 Broad st, New York
Meredith, J P, Memphis, Tenn
New Orleans Wood Preserving Works, New Orleans
Norfolk Creosoting Co, Norfolk, Va
Southern Creosoting Co, Slidell, La
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Pipe (Cast Iron).
Builders Iron Foundry, Providence, R I
Byers, John F, Machine Co, Ravenna, Ohio
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Dimmick Pipe Co, Birmingham, Ala
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Fox, John, & Co, 253 Broadway, New York
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co, Utica, N Y
Reading Foundry Co, Ltd, Reading, Pa
Snow, T W, 360 Dearborn st, Chicago, Ill
U S Cast Iron Pipe & Fdry Co, 217 La Salle st, Chicago
Warren Foundry & Machine Co, 160 Broadway, N Y
Wood, R D, & Co, Philadelphia, Pa

Pipe (Culvert). See Pipe, Vitrified Clay.

Pipe (Lead).
Millar, Chas, & Son Co, Utica, N Y

Pipe (Riveted Steel).
Carroll-Porter Boiler & Tank Co, Pittsburg, Pa
Columbiana Boiler Co, Columbiana, Ohio
Gillespie, T A, Co, Pittsburg, Pa
Keeler, E, Co, Williamsport, Pa
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg Pa
Means & Fulton Iron Works, Birmingham, Ala
Pelton Water Wheel Co, 134 Main st, San Francisco
Scaife, Wm B, & Sons Co, Pittsburg, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Warren City Tank & Boiler Works, Warren, O
Weigele Riveted Steel Pipe Works, Denver, Colo

Pipe (Spiral Riveted).
Abendroth & Root Mfg Co, Newburgh, N Y
Am Spiral Pipe Works, 64-66 Wabash ave, Chicago

Pipe (Vitrified Clay).
American Sewer Pipe Co, Pittsburg, Pa
Blackmer & Post Pipe Co, St Louis, Mo
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Evens & Howard Fire Brick Co, St Louis, Mo
Illinois Mfg Co, Macomb, Ill
Jackson, John H, Albany, N Y
Millar, Chas, & Son Co, Utica, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th st, N Y
Robinson Bros & Co, Akron, O

Pipe (Wooden).
American District Steam Co, Lockport, N Y
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Pipe (Wrought Iron).
Crane Co, Chicago, Ill
Fox, John & Co, 253 Broadway, New York
National Tube Co, Pittsburg
Pittsburg Pipe & Iron Co, Allegheny, Pa
California Redwood Pipe Co, Los Angeles

Pipe Casing.
U S Mineral Wool Co, 143 Liberty st, New York

Pipe Cutting and Threading Machines.
Saunder's, D, Sons, Yonkers, N Y

Pipe Fittings and Flanges.
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Latrobe Steel Co, Girard bldg, Philadelphia
National Tube Co, Pittsburg
Thompson, J, & Co, Van Horn & Sophia sts, Phila
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Joint (High Pressure).
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

ADVERTISERS' CLASSIFIED DIRECTORY.

Pipe Jointers.
Watkins, Thos, Johnstown, Pa

Pipe Laying (Submarine).
Falcon, Jos G, 1110 Ayers Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Pipe Line Supplies.
Ogden, J Edward Co, 147 Cedar st, New York

Pipe Tapping Machines (See Tapping Machines)

Plaster.
Rock Plaster Co, 11 Broadway, N Y

Plows (see Scrapers and Plows).

Plumbers' Supplies.
Campbell, J G, Bras Works, Cascade st, Erie, Pa
Clow, J B, & Sons, ke and Franklin sts, Chicago
Millar, Chas, & So ,n, Utica, N Y

Pneumatic To ls.
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Co umbus Pneumatic Tool Co, Columbus, Ohio
Helwig Mfg Co, St Paul, Minn
Philadelphia Pneumatic Tool Co, Philadelphia
Slocomb, F F, & Co, Wilmington, Del
(see also Riveting Machines)

Poles (Wooden)
(see Piling.)

Portable Light (see Light, Contractors').

Portable Tracks.
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Power Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Power Transmission (Electric).
General Electric Co, Schenectady, N Y
Leffel, Jas, & Co, Springfield, O
Pelton Water Wheel Co, 134 Main st, San Francisco
Westinghouse Electric & Mfg Co, Pittsburg

Power Transmission (Rope).
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Case Mfg Co, Columbus, O
Cresson, Geo V, Co, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Phila

Press (Artificial Stone).
Palmer, Noyes F, 150 Snediker ave Brooklyn, N Y

Pressure Gages (Recording)
Bristol Co, Waterbury, Conn

Pressure Regulators
d'Esté, Julian, Co, 15 Canal st, Boston
Foster Engineering Co, Newark, N J
Union Water Meter Co, Worcester, Mass

Pulleys.
Case Mfg Co, Columbus, O
Dodge Mfg Co, Mishawaka, Indiana

Pulverizers (Ore and Cement).
Allis-Chalmers Co, Home Ins dg, Chicago
Bradley Pulverizer Co, 92 e st, Boston, Mass
Clark J C, Box 525, Atla a, Ga
Cresson, Geo V, Co, Philadelphia
Kent Mill Co, 150 Broadway, New York
Newell Mfg Co, 149 Broadway, New York
Smidth F L & Co, 66 Maiden lane, New York
West Pulverizing Machine Co, Jersey City, N J

Pumps and Pumping Machinery.
Allis-Chalmer Co, Home Ins bldg, Chicago
American Well Works, Aurora, Ill
Barr Pumping Engine Co, Philadelphia
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Bonnot Co, Canton, Ohio
Cameron, A S, Steam Pump Works, New York
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Cook Well Co, St Louis, Mo
d'Auria Pumping Engine Co, 941 Drexel bldg, Phila
Davidson, M T, 52 Keap st, Brooklyn, N Y
Dean Bros' Steam Pump Works, Indianapolis, Ind
Deane Steam Pump Co, Holyoke, Mass
Deming Co, Salem, Ohio
Downie Pump Co, Downieville, Pa
Edwards, Jos, & Co, 414 Water st, New York
Epping-Carpenter Co, Pittsburg
Fairbanks, Morse & Co, Chicago
Flint & Walling Mfg Co, Kendallville, Ind
Goulds Mfg Co, Seneca Falls N Y
Guild & Garrison, So 10th st, Brooklyn, N Y
Hill Machine Co, Anderson, Ind
Heisler Pumping Engine Co, Erie, Pa
Knowles Steam Pump Works, 81 Liberty st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati, O
Lawrence Machine Co, Lawrence, Mass
McGowan, John H, Co, Cincinnati, Ohio
Norwalk Iron Works Co, South Norwalk, Conn
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Quimby, Wm E, 141 Broadway, N Y
Roots, P H & F M, Co, Connersville, Ind
Scranton Steam Pump Co, 151 Franklin ave, Scranton
Snow Steam Pump Works, 120 Liberty st, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio
U S Wind Engine & Pump Co, Batavia, Ill
Wood, P K, 209 No Main st, Los Angeles, Cal
Wood, R D, & Co, Philadelphia
Worthington, Henry R, Brooklyn, N Y

Pumps (Air Lift).
Bacon Air Lift Co, 100 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
Pneumatic Engineering Co, 128 Broadway, N Y

Pumps (Artesian Well).
Davidson, M T, 141 Broadway, New York
Downie Pump Co, Downieville, Pa
Wood, P K, 209 No Main st, Los Angeles, Cal

Pumps (Centrifugal).
Baldwinsville (N Y) Centrifugal Pump Works
Bucyrus Co, South Milwaukee, Wis
Edwards, Jos, & Co, 414 Water st, New York
Erie Pump & Engine Co, Erie, Pa.
Kingsford Foundry & Machine Works, Oswego, N Y
Lawrence Machine Co, Lawrence, Mass
Morris Machine Works, Baldwinsville, N Y
Temple Pump Co, 15th Place, Chicago
Wood, R D, & Co, Philadelphia

Pumps (Diaphragm).
Boston & Lockport Block Co, 180 Commercial st, Boston
Edson Mfg Co, 255 Atlantic ave, Boston

Pumps (Electric).
Davidson, M T, 141 Broadway, New York
Deming Co, Salem, Ohio
Goulds Mfg Co, Seneca Falls, N Y
Quimby, Wm. E, 141 Broadway, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Pumps (House Service).
Quimby, Wm E, 141 Broadway, New York

Pumps (Mining)
Davidson, M T, 141 Broadway, New York
Goulds Mfg Co, Seneca Falls, N Y
Pneumatic Engineering Co, 128 Broadway, N Y
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Scranton Steam Pump Co, Scranton, Pa
Snow Steam Pump Works, 120 Liberty st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, P K, 209 No Main st, Los Angeles, Cal

Punching Tools.
Pels & Co, Henry, 65-68 Broad st, New York

Pyrometers.
Bristol Co, Waterbury, Conn

Quarrying Machinery.
Flory, S, Mfg Co, Bangor, Pa
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, New York
Rand Drill Co, 128 Broadway, New York
Sullivan Machinery Co, 135 Adams st, Chicago
Tyrone Foundry & Machine Co, Tyrone, Pa

Rack Railways.
Hildenbrand, Wm, 1 Broadway, New York

Rail Fastenings.
Continuous Rail Joint Co of America, Newark, N J
National Elastic Nut Co, Milwaukee
N Y Rail Insulation & Equip Co, 200 Market st, Newark
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rail Joints.
Bonzano Rail Joint Co, 22 South 15th st, Philadelphia
Continuous Rail Joint Co of America, Newark, N J
McConway & Torley Co, Pittsburg, Pa
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rails (Relaying).
Continental Equipment Co, 5-17 Battery Place, N Y
Donaldson & Newton, 421 Chestnut st, Philadelphia
Grant & Harper Machy Co, Park Row bldg, New York
Hyde Bros, 902 Lewis bldg, Pittsburg
Johnson, Chas F, 908 Ellicott square, Buffalo
Robinson & Orr, 419 Wood st, Pittsburg
Tallon, C J, 306 Market st, San Francisco

Rails (Steel).
Baumgarten & Bro, A F, Pittsburg, Pa
Buffalo Steel Co, Tonawanda, N Y
General Supply & Const'n Co, 8-10 Bridge st, N Y
Koppel, Arthur, 68 Broad st, New York
Pennsylvania Steel Co, Steelton, Pa

Railway Equipment (Dealers).
Apex Equipment Co, 11 Broadway, New York
Fitz-Hugh & Co, Monadnock bldg, Chicago
Low, Edgar S, Co, Empire bldg, Pittsburg
Males Co, Etna bldg, Cincinnati
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Watson, Benjamin, 66 Beaver st, New York

Railway Signals (Pneumatic)
Pneumatic Signal Co, Broad-Exchange bldg, N Y

Railway Ties.
American Creosote Works, Ltd, New Orleans La
New Orleans Wood Preserving Works, New Orleans
Vanderbilt & Hopkins, 136 Liberty st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Railway Track Specialties.
Diamond State Steel Co, Wilmington, De
N Y Switch & Crossing Co, Hoboken, N J
Railroad Supply Co, Bedford bldg, Chicago
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Railways (Industrial).
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Riveting Machines.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Allen, John F, 370 Gerard ave, New York
General Pneumatic Tool Co, Montour Falls, N Y
Manning, Maxwell & Moore, 85 Liberty st, New York
Rand Drill Co, 128 Broadway, New York
Wood, R D, & Co, 400 Chestnut st, Philadelphia Pa
(see also Pneumatic Tools.)

Road Rollers and Machinery.
Acme Road Machinery Co, Frankfort, N Y
Austin Mfg Co, F C, Harvey, Ill
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Erie Machine Shops, Erie, Pa
Goods Roads Machinery Co, Kennett Square, Pa
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Heisler, Chas L, Erie, Pa
Huber Mfg Co, Marion, Ohio
Iroquois Iron Works, 178 Walden ave, Buffalo, N Y
Kelly-Springfield Road Roller Co, Springfield, O
Oastler, W C, 157 Fifth ave, New York
Port Huron Engine Co, Port Huron, Mich
Scholl, Julian, & Co, 136 Liberty st, New York
Shuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Rock and Ore Crushers.
Acme Road Machinery Co, Frankfort, N Y
Allis-Chalmers Co Home Ins bldg, Chicago
Austin Mfg Co, F C, Harvey, Ill
Aultman Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Climax Road Machine Co, Marathon, N Y
Cresson, Geo V, Philadelphia
Farrel Foundry & Machine Co, 26 Cortlandt st, N Y
Good Roads Machinery Co, Kennett Square, Pa
Scholl, Julian, & Co, 136 Liberty st, New York
Smidth, F L, & Co, 66 Maiden lane, New York
Sturtevant Mill Co, 106 Clayton st, Boston
Tyrone Foundry & Machine Co, Tyrone, Pa
Western Wheeled Scraper Co, Aurora, Ill

Rock Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Davis Calyx Drill Co, 128 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
McKiernan Drill Co, 170 Liberty st, N Y
Rand Drill Co, 128 Broadway, New York
Rogers, John M, Gloucester City, N J
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Wood Drill Works, 30 Dale ave, Paterson, N J

Rolling Doors, Partitions, etc. (Steel)
Kinnear Mfg Co, Columbus, Ohio
Wilson, J G, 3 W 29th St, New York

Roofing.
Standard Paint Co, 103 William st, New York

Roofing (Corrugated).
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Scaife, W B, & Sons Co, Pittsburg

Rope (Manila).
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Smith, S Morgan, Co, York, Pa

Scales (Weighing).
Fairbanks, Morse & Co, Chicago
Richardson Scale Co, 15 Park Row, New York

Schools (Correspondence).
Am. School at Armour Inst. of Tech. Chicago
(For Directory of Engineering Schools see p. 4.)

Scrapers and Plows.
Austin Mfg Co, Manhattan bldg, Chicago
Contractors' Plant Mfg Co, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Shuart Scraper Co, Oberlin, O
Smith & Sons Mfg Co, Kansas City, Mo
Syracuse Chilled Plow Co, Syracuse, N Y
Western Wheeled Scraper Co, Aurora, Ill

Screens (Stone and Sand).
Allis-Chalmers Co, Home Ins bldg, Chicago
Aultman Co, Canton, O
Climax Road Machine Co, Marathon, N Y
Harrington & King Perforating Co, Chicago, Ill
Taylor Iron & Steel Co, High Bridge, N J

Screens (Water-Works).
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Seamless Drawn Tanks and Tubes.
National Tube Co, Pittsburg

Separators (Oil and Steam).
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Robertson, Jas L, & Sons, 192 Fulton st, New York

Sewage Disposal.
Cameron Septic Tank Co Monadnock block, Chicago

Sewer Braces.
Dunn Mfg Co, Pittsburg, Pa
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind

Sewer and Street Castings.
Sessions Foundry Co, Bristol, Conn
(see also Castings, Iron.)

Sewer Pipe (see Pipe, Vitrified)

Shafting.
Case Mfg Co, Colmbus, O
Cresson, Geo V, Phiadelphia
Dodge Mfg Co, Mishawaka, Indiana
Poole, Robt, & Son Co, Baltimore, Md

Sheet Iron Work.
Am Sheet Steel Co, Battery Park bldg, New York
Petroleum Iron Works Co, Washington, Pa
Scaife, Wm B, & Sons Co, Pittsburg

Sheet Steel.
Am Sheet Steel Co, Battery Park bldg, New York
American Steel & Wire Co, New York & Chicago

Shutters (Fire Proof).
Kinnear Mfg Co, Columbus, Ohio

Skylights.
Pleity, Josephus, Jersey City, N J
Vaile & Young, Baltimore, Md

Sluice Gates.
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Smoke Stacks (see Stand-Pipes and Tanks).

Speed Governers.
Foster Engineering Co, Newark, N J

Stamp Mills.
Allis-Chalmers Co, Home Ins bldg, Chicago

Stand-Pipes and Tanks.
Caldwell, W E, Co, 200 East Main st, Louisville, Ky
Chicago Bridge & Iron Co, Chicago
Columbiana Boiler Co, Columbiana, O
Enterprise Boiler Co, Youngstown, O
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Co, East Boston, Mass
Keeler, E, Co, Williamsport, Pa
King Bridge Co, Cleveland, O
Means & Fulton Iron Works, Birmingham, Ala
North Penn Iron Co, 3d and Sedgley ave, Phila
Petroleum Iron Works Co, Washington, Pa
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, Wm B, & Sons Co, Pittsburg
Sharon Boiler Works, Sharon, Pa
Smith, Theo, & Sons Co, Jersey City, N J
Snow, T W, 360 Dearborn st, Chicago
Strutners-Wells Co, Warren, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Tippett & Wood, Phillipsburg, N J
U S Wind Engine & Pump Co, Batavia, Ill
Warren City Tank & Boiler Works, Warren, O
Wood, R D & Co, Philadelphia, Pa

Steam Shovels.
Austin, Mfg Co, Manhattan bldg, Chicago
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee, Wis
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Marion Steam Shovel Co, Marion, O
Mead, John A, & Co, 7 Broadway, New York
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, Boston, Mass
Thew Automatic Shovel Co, Lorain, O
Toledo Foundry & Machine Co, Toledo, O
Vulcan Iron Works Co, Toledo

Steam Specialties.
American District Steam Co, Lockport, N Y
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
d'Esté, Julian, Co, 15 Canal st, Boston
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Lunkenheimer Co, Cincinnati, O
Manning, Maxwell & Moore, 85 Liberty st, New York
Robertson, Jas L, & Sons, 192 Fulton st, New York
Union Steam Spec. Co, 151 Franklin ave, Scranton, Pa
(see also Separators, Oil and Steam.)

Steam Traps.
American Blower Co, Detroit, Mich
Buffalo Forge Co, Buffalo, N Y
Crane Co, Chicago, Ill
d'Esté, Julian, Co, 15 Canal st, Boston
Sturtevant, B F, Co, Boston, Mass

Steel Clips.
Streeter, H A 35 Indiana st, Chicago

Steel Flanges (Weldless).
Latrobe Steel Co, Girard bldg, Philadelphia

Steel Ties.
Koppel, Arthur, 68 Broad st, New York

Stone.
Bound Brook (N J) Crushed Stone Co
Leopold, J, & Co, 18 Broadway, New York
Thiel, August, Guttenberg, N J
Tomkins, Calvin, 120 Liberty st, New York

Street Railway Supplies.
Brill, J G, Co, Philadelphia, Pa

Street Sprinklers and Sweepers
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Edson Mfg Co, 255 Atlantic ave, Boston
Good Roads Machinery Co Kennett Square, Pa

Structural Steel and Iron Work.
Berlin Construction Co, Berlin, Conn
Brooks, T H, & Co, Cleveland, O
Eichleay, John, Jr, Co, Pittsburg
General Supply & Const'n Co, 8-10 Bridge st, N Y
Kratzer, W N, & Co, 3218 Smallman st, Pittsburg
Link Belt Engineering Co, Nicetown, Phila
Means & Fulton Iron Works, Birmingham, Ala
National Skylight & Const'n Co, 120 Liberty st, N Y
N J Foundry & Machine Co, 9 Murray st, N Y
North Penn Iron Co, 3d and Sedgley ave, Phila
Pedrick, E E, Co, 120 Liberty st, New York
Schreiber, L, & Sons Co, Cincinnati, O
Sharon Boiler Works, Sharon, Pa
Snare & Triest, 39 Cortlandt st, New York
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Streeter, H A, 35 Indiana st, Chicago
Tippett & Wood, Phillipsburg, N J
Walton Iron Co, Cincinnati
(see also Bridges and Buildings.)

Stump Pulling Machine.
Milne Mfg Co, 894 Eighth st, Monmouth, Ill

Submarine Armor (see Diving Apparatus).

Tacks, Thumb
Albrecht, C. R, 62 Fulton st, New York

Tanks.
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Hodge Boiler Works, East Boston, Mass
Pacific Tank Co, Los Angeles, Cal.
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, W B, & Sons, Pittsburg
Steel Storage Elevator & Const'n Co, Buffalo, N Y
Warren City Tank & Boiler Works, Warren, O
(see also Stand Pipes and Tanks.)

Tapes (Steel). See Measuring Tapes.

Tapping Machines (Pipe).
Smith, Anthony P, Mfg Co, Newark, N J

Tents.
Murray & Co, 329 S Canal st, Chicago

Test Borings (see Artesian Wells).

Testing Laboratories (see Laboratories).

Testing Machines.
Falkenau-Sinclair Machine Co, 109 N 22 st, Phila
Riehle Bros Test & Mach Co, 1424 N 9th st, Phila

Thermometers (Recording).
Bristol Co Waterbury, Conn

Tie Plates.
Diamond State Steel Co, Wilmington, Del
Railroad Supply Co, Bedford bldg, Chicago

Ties
Koppel, Arthur, 68 Broad st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Time and Cost Keeping.
Industrial Time & Cost Keep. System, Bantam, Conn

Time Detectors.
Am Watchmen's Time Detector Co, 234 B'way, N Y
Imhauser, E, & Co, 206 Broadway, New York

Tracing Cloth.
Aloe, A S, Co, 414 North Broadway, St Louis
Favor, Ruhl & Co, 54 Park Place, N Y
Hardtmuth, L & C, 49 Barclay st, New York
(see also Instruments, Engineering, etc.)

Transformers.
General Electric Co, Schenectady, N Y

Trench Machines.
Carson Trench Machine Co, Boston, Mass
Potter Mfg Co, 2010 N W ave Indianapolis, Ind

Tubing (Flexible Metallic).
Moore, Chas C, & Co, 32 First st, San Francisco

Turbines.
Camden Water-Wheel Wks, Camden, New York
Dayton Globe Iron Works Co, 7 Ludlow st, Dayton,
Leffel, Jas, & Co, Springfield, O
Poole, Robert, & Son Co, Baltimore, Md
Risdon-Alcott Turbine Co, Mt Holly, N J
Smith, S Morgan Co, York, Pa
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, R D, & Co, Philadelphia, Pa

Turnbuckles.
Cleveland City Forge & Iron Co, Cleveland
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Turntables.
American Bridge Co, New York
Boston Bridge Works, 47 Winter st, Boston, Mass
Chicago Bridge & Iron Co, Chicago
Columbia Bridge Co, Pittsburg
Fort Pitt Bridge Works, Pittsburg, Pa
Hunt, C W, Co, Richm'd Terrace, W N Brighton, N Y
King Bridge Co, Cleveland, O
Koppel, Arthur, 68 Broad st, New York
McClintic-Marshall Construction Co, Pottstown, Pa
Mo Valley Bridge & Iron Wks, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, O
Passaic Steel Co, Paterson, N J
Philadelphia Bridge Works, Pottstown, Pa
Phoenix Bridge Co, 1321 Arch st, Philadelphia
Virginia Bridge & Iron Co, Roanoke, Va
Wonham-Magor Eng. Wks, 29 Broadway, New York

Valve Boxes.
Cayuta Wheel & Foundry Co, Sayre, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Drummond, M J, & Co, 192 Broadway, N Y

Valves.
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Darling Pump & Mfg Co, Box E, Williamsport, Pa
(see also Hydrants and Valves.)

Valves (Gas).
Campbell, J B, Brass Works, Cascade st, Erie, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Ludlow Valve Mfg Co, Troy, N Y
Roots, P H & F M, Co, Connersville, Ind

Valves (Gate).
Cayuta Wheel & Foundry Co, Sayre, Pa
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Crane Co, Chicago, Ill
Millar, Chas, & Son Co, Utica, N Y
Walworth Mfg Co, Boston, Mass
Wood, R D, & Co, Philadelphia, Pa

Valves (Pressure Regulating).
Ross Valve Co, Troy, N Y
(see also Pressure Regulators.)

Valves (Steam).
Cayuta Wheel & Foundry Co, Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Ludlow Valve Mfg Co, Troy, N Y
Lukenheimer Co, Cincinnati, O

Valves (Stop).
Foster Engineering Co, Newark, N J
Reading Foundry Co, Ltd, Reading, Pa
Sweet & Doyle, Cohoes, N Y
Thompson, J, & Co, Philadelphia

Varnish and Colors.
(see Paints.)

Vault Lights.
Brooks, T H, Cleveland, Ohio
Tucker & Vinton, 156 Fifth ave, New York

Ventilators.
Buffalo Forge Co, Buffalo, N Y
Merchant & Co, Inc, Philadelphia, Pa

Vises (Parallel).
Merrill Bros, 467 Kent ave, Brooklyn

Wagons and Carts.
Auburn Wagon Co, Martinsburg, W. Va
Austin, F C, Mfg Co, Harvey, Ill
Climax Road Machine Co, Marathon, N Y
Columbia Wagon Co., Columbia, Pa.
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
U S Sanitary Co, Washington, D C
Watson Wagon Co, Canastota, N Y
Western Wheeled Scraper Co, Aurora, Ill

Water Meters.
Backus Water Motor Co, Newark, N J

Water Softening Plants.
Industrial Water Co, 126 Liberty st, New York
Kennicott Water Soft Co, 498 Great North. bldg, Chic
N Y Continental Jewell Filtration Co, 15 Broad st, NY
Patterson, D W, Harrison bldg, Philadelphia, Pa
Pittsburg Filter Mfg Co, Pittsburg

Water Storage Systems.
Acme Water Stor & Const'n Co, Park Row bldg, N Y

Water Wheel Governers.
(see Governors, Water-Wheel.)

Water Wheels.
Cassel Auto Water Motor Co, Seattle, Wash
Doble, Abner, Co, Fremont & Howard, San Francisco
Pelton Water Wheel Co, 134 Main st, San Francisco
(see also Turbines.)

Water-Works Tools and Supplies.
Flint & Walling Mfg Co, Kendallville, Ind
Smith, A P, Mfg Co. Newark, N J

Well Drilling Machinery.
American Well Works, Aurora, Ill
Cook Well Co, St Louis, Mo
Star Drilling Machine Co, 104 Fulton st, New York
Williams Bros, Ithaca, N Y

Wharf and Pier Builders.
Atlantic, Gulf & Pacific Co, 13-21 Park Row, N Y
McMullen, Arthur, & Co, 13-21 Park Row, New York
O'Rourke, John F, Park Row bldg, N Y
Phoenix Bridge Co, Phoenixville, Pa
San Francisco Bridge Co, 220 Market st, San Francisco

Wheelbarrows.
Cockburn Barrow & Machine Co, Jersey City, N J
Syracuse Chilled Plow Co, Syracuse, N Y
Steubner, G L, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill

Whistles.
Crosby Steam Gage & Valve Co, Boston
Lunkenheimer Co, Cincinnati, O

Windmills.
Flint & Walling Mfg Co, Kendallville, Ind
Temple Pump Co, 15th Place, Chicago
U S Wind Engine & Pump Co, Batavia, Ill

Wire, Wire Rope and Cables.
American Steel & Wire Co, New York & Chicago
Broderick & Bascom Rope Co, St Louis
Leschen, A, & Sons Rope Co, St Louis
Macomber & Whyte Rope Co, 21 S Canal st, Chicago
Roebling's, John A, Sons Co, Trenton, N J
Trenton Iron Co, Trenton, N J
Williamsport Wire Rope Co, Williamsport, Pa

Worm Gearing.
Morse, Williams & Co, Philadelphia, Pa

Wire Fence (see Fencing).

Wood Preserving (see Creosoting).

Wrenches.
Keystone Drop Forge Wks, 20th & Clearfield sts, Phila

TURN TO PAGES XXIV-V

Supplem

PERSONAL
Obituary
ENGINEER
Coming
CONSTRUC
Condens
Railway
Street a
Light.
Bridges
Buildin
Water
Sewera
Garbag
Streets
Manufa
Miscell
U. S.
Mexico
Foreign
Contra
INDUSTR
TRADE
PROPOSA
ADVERT

Mr. Le
neer and

Mr. S.
Wilming
tice.

Messrs
have mo
St., New

Mr. R
linois C
structio

Mr. J
bridge,
Mr. Le

Mr. C
Bellefo
Hennes

Mr.
of the
headqu

Mess
berg
Water

Mr.
resign
Toledo

Mr.
of th
Arthu

Mr.
the fi
The

Mr.
ciated
of B
Engi

Mr
spec
Illin
Wal

Mr
Stru
ciat
Gen

Mr
ing
was
Joli

M
at
and
ins

M
gin
bu
H
bu

gl
ne
Il
m

A
h
p